MARINE CORPS GAZETTE

Marine Corps Gazette

FEBRUARY 1950

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GENGHIS KHAN'S DISCIPLINE ..... IV COVER

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THIS MONTH'S COVER: Students at the Marine Corps Aviation Technical School, Marine Corps Air Station, Quantico, prepare a plane for flight as part of their instruction. While the need for such a school as MCATS long had been recognized by most Marine airmen, the school was not established until 1946 when personnel and means became available. For a full discussion of the school, its mission, and its courses of instruction, see *MCATS* by Maj Arthur N. Nehf, Jr., on page 30.

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THIS MONTH AND NEXT—For the first time in the memory of the present staff the GAZETTE is using the likeness of a woman not in the military service as an illustration. PFC Packwood's idea of an 18th Century French beauty will be found on page 42. This lady played a leading role in eliminating her own country from power in North America as told by Frank Edwards, well-known Canadian commentator, in *The Secret of Quebec*, beginning on page 38 of this issue. Mr Edwards introduces many facts about the Quebec siege which heretofore have been missing from historical accounts.

The GAZETTE wishes to congratulate the Marine Corps Institute on its 30th anniversary. See *The Story of a Dream* on page 14.

An apology is hereby offered to MajGen Merwin H. Silverthorn, whose first name and middle initial were listed incorrectly on January's back cover.

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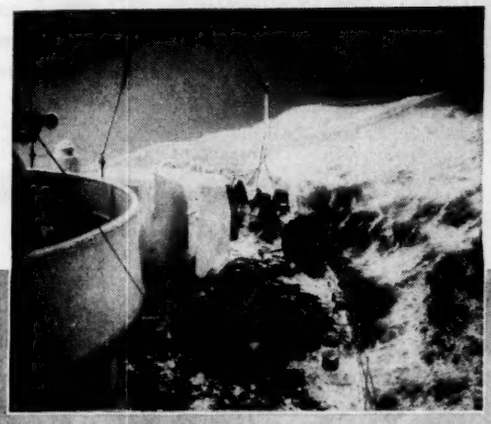

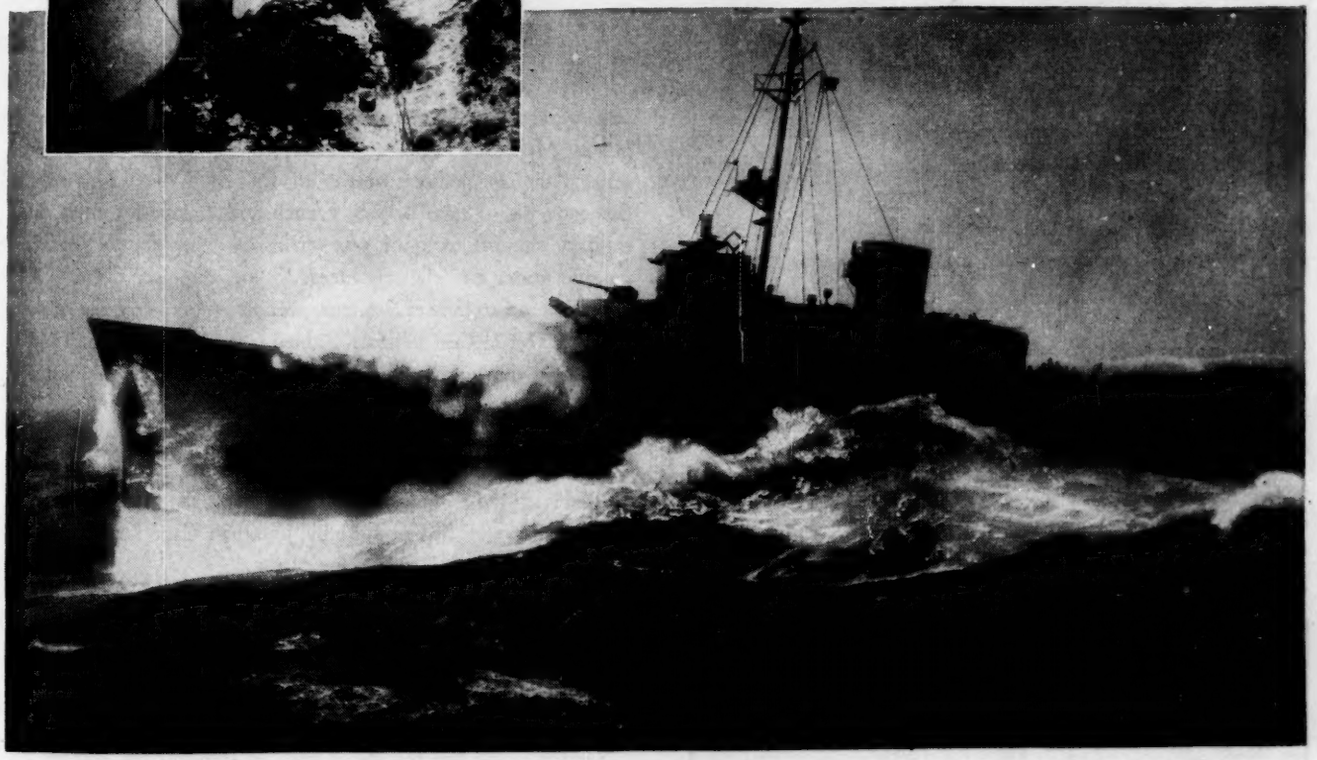

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TO THE EDITOR

Message Center

Squared Away . . .

DEAR SIR:

I must say that LtCol Willock's explanation of the origin of the phrase "squared away" seems to have been rather speciously contrived by the British authorities he quotes.

"Squared away" is a completely nautical expression, and can only be referred to as a military phrase by adoption. It has its origin in the sailing orders of a square-rigged ship, where the yards are said to be squared when they are at right-angles to the fore-and-aft line, or center line, of the ship. In running before a fair wind, the yards are squared; this operation requires quite a bit of hauling on braces, sheeting home, and so forth. Upon completion of the task, the ship is said to be squared-away, i.e.: there is no more to be done aloft. Further, while in the modern Navy we salute, for instance, the President of the United States by "manning the rails," in former times the crew "manned the yards." For this maneuver the yards were hoisted and squared away.

I should also like to cite, if I may, a lubberly expression of doubtful grammar which has gained much currency in recent years; this is the use of the word "on" when used in connection with service or travel in a ship, as, "I came back to the States on the *Lurline*." People have served *in* ships ever since some primitive man built and launched a hull instead of a raft.

GORDON F. OGILVIE,
MSgt, USMC

For Last Ataman . . .

DEAR SIR:

A snappy salute to Capt Lindstrom for his splendid article *The Last Ataman*. Having been born in Russia, also a former member of the splendid V-Phib Corps Staff, and now a civilian Marine, who, like the rest of the world, would like to find a way to settle the Russian dilemma, I find LtGen Semenov's effort to lick the Bolsheviks quite interesting. Perhaps, if our country at that time had more informed people on the Russian situation, the General would have succeeded and perhaps been alive today. I also feel that the General would have been a good Marine Gunner of the old school.

The object of this letter is to suggest that your magazine publish more articles along the type presented by Capt Lindstrom. There are many Marines with experiences in China, Haiti, Nicaragua, etc., who have interesting experiences and historical facts which deserve publication in your magazine. There should be a way to get such material before it is too late.

So, "Well Done," Capt Lindstrom!

MARK RENE TUBAN,
Capt, USMCR

Against Last Ataman . . .

DEAR SIR:

After reading *The Last Ataman*, by Capt Lindstrom, in your November issue, I feel that at last "I have had it."

He insults Gen Eisenhower by comparing him with Semenov, because the characters of the two men are at opposite poles. Moreover, I do not believe that Eisenhower or any other American officer worthy of the name would do what Semenov did — take British, French and Japanese money and military support to make war on his own people. Is that excusable under any circumstances?

Capt Lindstrom met Semenov socially, years after the events in Siberia. MajGen William Sidney Graves was on the ground in Siberia during the events, as commander of the American Army forces there, and knew Semenov's character and performance at first hand.

Unlike Capt Lindstrom, Gen Graves did not look upon Semenov as a hero. Graves wrote a book, *America's Siberian Adventure*, published in 1931 by Jonathan Cape and Harrison Smith, New York.

The book contains an approving foreword by Newton D. Baker, who was Secretary of War during the "adventure," and several commendations of Graves by Gen Peyton C. March, then Chief of Staff. Baker and March backed Graves in carrying out the orders he received from President Wilson.

Graves' book has numerous pasages showing his opinion of Lindstrom's "great warrior," Semenov. For example:

Page 86: "A murderer, robber and most dissolute scoundrel — financed by Japan, and had no convictions that would interfere with his doing as the Japanese directed — could not have existed one week in Siberia if he had not had the protection of Japan."

Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.

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Page 108: "Semenov and Kalmikov soldiers, under the protection of Japanese troops, were roaming the country like wild animals, killing and robbing the people."

Pave 166: "The annals of crime will not show worse characters than these." (Semenov, etc.).

Page 251: "Semenov had telegraphed Kalmikov to go ahead and attack American troops, and, if he needed any help, he, Semenov would send his Cossacks to assist him."

Graves tells how Semenov's men killed and wounded a number of American soldiers. On one occasion for example, they fired into railroad cars full of sleeping American soldiers.

Page 261: "It should be remembered that Semenov and Kalmikov were brigands and murderers. They had not character which would deter them from committing any offense. Nothing but physical fear, or fear of losing their Japanese support, would deter them from attacking Americans or anyone else."

Page 246: "Col Morrow, in command of American troops in the Trans-Baikal sector, reported a most cruel and almost unbelievable murder of an entire village by Semenov. His soldiers shot down men, women and children as if they were hunting rabbits."

Page 313: "This is the same Semenov who, in 1919, had robbed a New York company of a trainload of furs; the same Semenov who took three Americans . . . and brutally murdered them for no reason except that they were wearing the uniform of the American Army."

The next quotations lead up to the reason why I consider it worth while to comment on Capt Lindstrom's article.

Page 263: Graves cabled Washington: "In my judgment, if we permit American arms to reach Semenov, Kalmikov or Rozanov, we will be helping to arm the worst criminals in Siberia, *thereby causing a resentment of the great majority of the people of Siberia against the United States.*

On page 339, Graves says that when the American forces left Siberia there were ten times more Bolsheviks than there were when the American forces arrived.

Page 289: Marquis Okuma, in a Japanese newspaper, stated that "morality and sincerity do not govern a country's diplomacy."

I am no perfectionist, and I do not believe that a just cause is enough to assure victory. But will it help us to throw "morality and sincerity" out the window and embrace scoundrels like Semenov?

If we do so, we will create "Bolsheviks" in other countries, as the foreign interveners who backed Semenov did in Russia. Even from strict self-interest, divorced from morals, I do not believe that is good policy. The world, including our allies, will judge us more by our actions than by our words.

ALBERT H. JENKINS,
Maj, USMCR

continued on page 6

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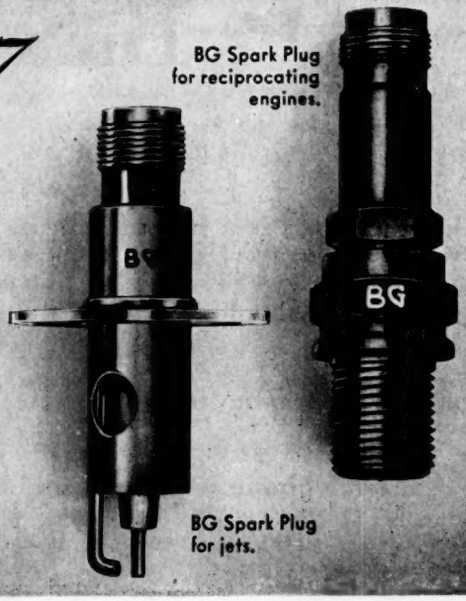

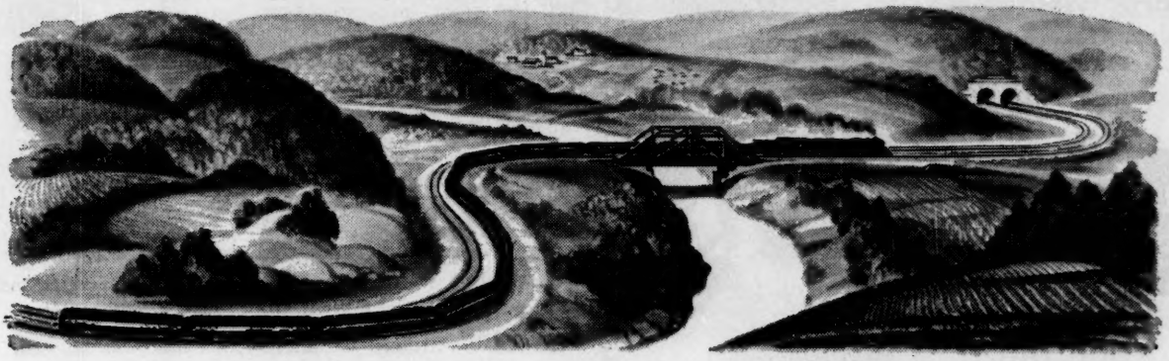

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Target Grid System . . .

DEAR SIR:

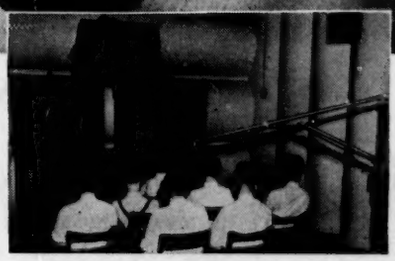
I have just read, with a great deal of interest, Maj Pounds evaluation of the Target Grid System of Observed Fire Procedure, as set forth in the October issue of the GAZETTE.

Serving as assistant inspector-instructor with a reserve artillery battalion during the past few years, the undersigned can well attest to the difficulties encountered in attempting to instruct officers, with a heterogeneous assortment of MOS's, and a minimum of time to devote to training, the intracacies inherent in the war time and post war system of observed fire procedure.

The ease with which the new Target Grid System of Observed Fire Procedure may be taught observers, and its assimilability, can best be illustrated by the experience of this Reserve Artillery Battalion. This unit was advised, approximately one month prior to its period of assignment to active duty for annual field training, that the Target Grid System of Observed Fire Procedure would be utilized during the summer training period. Due to the press of personal business and other private commitments among the Battalion officers, it was only possible to conduct two school periods, of two hours duration, prior to embarkation for the artillery range at Quantico, Virginia. Despite this short period of intoctrination in the Target Grid Method of Observed Fire Procedure, and the fact that in nearly all instances where live firing was conducted the observer—target—gun angle was of sufficient magnitude to cause range dispersion to enter into the problem, the officers concerned conducted precision and area type missions in a satisfactory manner. Under the old system of axial and lateral (or range and deflection bracketing) conduct of fire, the successful execution of a service practice shoot with officers who are basically not artillerymen, on such short notice, and with such a minimum of training, would have been highly improbable if not completely impossible.

It therefore appears the object of the new system, which is to simplify observed fire procedure, from the observers viewpoint, can be considered definitely feasible.

However, there is one feature of this new system of Observed Fire Procedure the writer considers to be a disadvantage, and which he has not seen mentioned or discussed in service periodicals. This is the fact that without establishment of a fire direction center, with its intricate system of wire and radio nets, fire charts, horizontal control operators, vertical control operators, battery computers, and myriad essential items of equipment, not a single round of observed, indirect, artillery fire may be brought to bear in support of the infantry, or upon targets of opportunity which may present themselves to the artillery observer. Therefore, delay in immediate establishment of the FDC upon occupation of position; loss of FDC equipment or key personnel due to enemy action, or the whims of sea or weather; would temporarily preclude the artillery accomplishing its mission of supporting the infantry by fire. It is hoped that at the time such a catastrophe occurs in combat, there will still be officers on active duty who were once



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The noise in the cockpit of a jet fighter plane preparing to take off is *deafening*. It compares with a battery of air hammers on a steel hull, or the roar of water at the base of Niagara Falls.

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Persons selected at random, with normal hearing and vocal characteristics, were seated in the soundproof room, illustrated above, and fitted with experimental phones and microphones. Electronically generated noise, which synthesized a jet engine sound exactly, was amplified to a deafening roar—to the threshold of pain—and reproduced on the loudspeakers at the front of the room. Then over the earphones came words, words, words, and the test subjects wrote them down as they understood them.

Patiently, over a period of months, by constantly analyzing and changing, by improving microphones and earphones, and by developing special amplifiers, and by fitting them all together in a complementary manner, there finally evolved a complete system—microphones, earphones, and special amplifiers—through which the pilot could understand and be understood—over the roar of his jet engine.

These same methods have developed acoustical systems for other high noise-level applications—the diesel-engine room of a submarine, the bridge of a battleship during main-battery firing, or AA gun positions at the height of an anti-aircraft attack.

Consideration of problems such as were presented in these high-articulation earphones and microphones is the daily concern of RCA engineers. To all such problems are brought the same experience, persistence, and ingenuity which have made RCA the leader in the fields of radio and electronics.

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well versed in axial and lateral conduct of fire procedures. One such officer could jump into the breach thus created, seize a reel of wire in hand, pass one end to a "Battery Exec" and hie himself to the nearest point of vantage. Repeating such strange incantations as "r over R times deviation," "S equals 1/10 T over large R," "Guns on the right go up go right go down go left," "Be bold, get a bracket, make at least a four c change," etc.; he would sufficiently refresh his memory to allow him to bring adequate directed fire to bear to assist the unit through the interim required to establish a fire direction center and resume normal operations.

In conclusion it may be said that the Target Grid System of Observed Fire, has, to a very great extent, simplified the observers procedure and calculations and places the burden of the somewhat complicated gunnery computations involved in the FDC. There it is hoped that the personnel will be sufficiently ambidextrous, well trained and functional at all times, to accomplish the end desired.

This system, though it is a definite step in the right direction, should not be regarded as a panacea for all the problems involved in placing artillery fire quickly and accurately on specific points or areas. Continuing research and development in this field is indicated.

GABRIEL J. DE CARO,
Captain, USMCR

Security? . . .

DEAR SIR:

LtCol Prickett's article, *Security Training*, in the November GAZETTE, discussed the need for proper security indoctrination of service personnel. An incident in the history of one Seabee battalion demonstrates how, despite all precautions within the service, the plans of mice and men can leak out if other loopholes are not plugged.

In early July, 1942, the Sixth Seabees, which had just opened the Advance Base Depot at Gulfport, Miss., was hastily alerted in great secrecy for movement to the West Coast, its ultimate destination being Guadalcanal. Initially, five officers were let in on the secret — the officer-in-charge of the station, the OinC of the battalion, the exec, senior surgeon, and supply officer. The news was broken to the remaining officers at 1400, Sunday, July 5. The men got it at 0700 on the 6th, and the entire battalion entrained that same afternoon.

It developed, however, that the precipitate departure did not come as a complete surprise to some few 'Bees. These worthies had attended services at one of the Gulfport churches on Sunday morning. Upon leaving the church they were greeted by the minister as follows:

"It's been nice to have you fellows with us. We're all sorry you're not staying longer."

How had the news leaked out? The railroad people knew that three troop trains of 15 or 16 Pullmans each — enough for 1,000 men — had been ordered for Monday afternoon. There was just one body of troops in Gulfport — the Sixth.

Simple deduction did the rest. Despite the security posters with which the country was well plastered during the war, the word just had not gotten across, and the carefully-guarded "secret" was common knowledge in the town.

Perhaps the moral to be learned is the need of total training for total war.

MARK H. JORDAN,
Comdr, (CEC) USN

More on Security . . .

DEAR SIR:

LtCol Prickett's *Security Training*, November issue, is without a doubt one of the most impressive articles stressing the importance of such training.

In addition to the excellent examples set forth by the Colonel, stipulating violations of security, I feel that a short note on the person who brings his office home would be worthy of mention. The apparent result is that a great number of flagrant breaches of security can be encountered at clubs or social gatherings through the media of wives and lady friends, who seemingly strive to place themselves and their spouses in a category, as the Colonel puts it, "social animals who continually seek group approval."

As a troop movement officer during the war, this officer usually received such information as numbers of troops, times, dates, destination and mode of travel, well in advance of any official notification. Not necessarily by accident either. And from whom? None other than the beaming wife or lady friend, the proud possessor of such information.

One note more on the Colonel's suggested training aid. I believe the so-called "corny but effective" movie is typically exemplified in an excellent training film currently available at the Training Aids Library, entitled "Safeguarding Military Information," MA 420, running time 12 minutes.

Portrayed by professional Hollywood stars, it depicts the consequences of discrepant security not only to include a facsimile of the Colonel's suggested "bar" but the aforementioned husband-wife theme in a mother and son category.

HENRY A. CHECKLOU,
1stLt, USMC

Corner Stone . . .

DEAR SIR:

Maj Reginald Hargreaves' excellent article *The Corner Stone*, which I have just finished reading in the MARINE CORPS GAZETTE of October 1949, immediately recalled to mind a citation given in Court Martial Order No. 4-1935 (Compilation of Court-Martial Orders, 1916-1937, Volume II, page

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1965). The citation, as quoted from *United States v. Clark, 31 Fed. 710,* reads:

"It would be extremely unwise for the civil courts to lay down general principles of law which would tend to impair the efficiency of the military arm, or which would seem to justify or condone conduct prejudicial to good order and military discipline. An army is a necessity—perhaps I ought to say an unfortunate necessity—under every system of government, and no civilized state in modern times has been able to dispense with one. To insure efficiency, an army must be, to a certain extent, a despotism. Each officer, from the general to the corporal, is invested with an arbitrary power over those beneath him, and the soldier who enlists in the army waives, in some particulars, his rights as a civilian, surrenders his personal liberty during the term of his enlistment, and consents to come and go at the will of his superior officers. He agrees to become amenable to the military courts, to be disciplined for offenses unknown to the civil law, to relinquish his right of trial by jury, and to receive punishments which, to the civilian, seem out of all proportion to the magnitude of the offense."

This letter is intended only as a comment, not a critique, as I feel that the above quotation bears on Maj Hargreaves' general theme of "Discipline is the Corner Stone of the Military Establishment."

WARD H. FOSTER,
TSgt, USMC

For Armor . . .

DEAR SIR:

With respect to the letter of LtCol L. W. Walt in the October issue relative to LtCol Stuart's article *Mechanization of the Amphibious Attack,* I cannot help but feel that certain of us are laboring under the misconception that the presence of armor in increased quantities with the Fleet Marine Force would imply the formation of a second land army, a subsequent departure from the basic principles of amphibious warfare and an inability to perform our basic mission within the armed forces. Nothing could be farther from the truth. The characteristics of armor and the armored attack are in themselves indicative of, and fully compatible with, the desired characteristic of the amphibious attack; shock action, surprise, violence, protected fire power, flexibility, and battlefield mobility. Is there any other type weapon, or combination of weapons, within the armed forces capable of such versatile employment? There is not!

The Marine Corps, by long tradition and by public law, has the responsibility of developing amphibious techniques and doctrine to the end that the armed forces of the United States may be capable of the successful seizure of an objective by amphibious attack. I know of no qualifying portion of that law, or any amendment thereto, which provides for anything but the *successful* accomplishment of this mission. Where, then, are the restrictions on size, and particularly as to logistic capability, mobility, shipping, weapons and equipment during time of war or peace to be found? The answer to that is obvious—in our own minds. Who would have supposed in the late '30s that the Nation would require a wartime Marine Corps on 500,000 men and women? Who would have supposed during the fighting on Guadalcanal that in subsequent island operations the assault forces of several Marine Divisions would be landed in amphibian tractors supported by armored amphibians? The only valid considerations bearing on size and employment that should be contemplated by a Corps such as ours *in the conduct of its peacetime planning mission* are those that may be imposed by the known and estimated capabilities of our potential enemy. In my mind, this consideration constitutes a realistic planning and training objective and is by no means insurmountable unless we make it so.

LtCol Walt poses the problem of transport for armor and mechanized forces to the landing area so as to get them ashore in the assault waves. "If the conventional transports are used," he states, "they must be brought in close to shore to discharge, they will not have more than 5-6,000 yards to travel to reach the landing beach." I can not see where it matters to tanks and armored type vehicles how far off the landing beach they are discharged, but I can see where it would be of some concern to the unprotected infantry in "conventional" type landing craft and unarmored landing vehicles; particularly in view of the recognized "attacks by guided missiles and long range artillery with proximity fuze ammunition." A further restriction in the amphibious mission of the Marne Corps is introduced to the effect that "If the Marine Corps was to become as heavy as his (LtCol Stuart's) concept would dictate, it would lose its greatest asset of readiness and mobility and become another 'Army type unit' and as such there is no excuse for it (the Marine Corps) to exist." Along the same vein, were we to regulate the offensive power of the amphibious operation in a manner such as this we might also lose our *ability* to *successfully* accomplish the mission to which we have been assigned. If using Army type equipment, and adding muscle so that we can stay in the ring a little longer against the heavyweights means that we have become an "Army type unit," then we have been guilty of this indicretion for a long time.

Our potential enemy has demonstrated, for all who care to see, that the combined arms team of armor, artillery, infantry, and close air support is a winning combination. He has further demonstrated that he can employ this team in such a manner as to meet whatever armed threat that might occur, whether from land, sea, or air. There is no reason to believe that a beachhead is any more invulnerable to a counterattack by a combined arms team than a land army or an airhead. It would be entirely impractical to attempt an amphibious attack without the means to seize and defend the landing force objective against this type of opposition. Why, then, should we, in future planning and training, think in terms of any less opposition than the combined arms team? An assumption that our armed forces can afford to maintain within its midst a service

charged with the development of technique and doctrine for the amphibious attack, yet possessing a self-imposed capability of only *limited* employment against our potential enemy in time of war belongs within the "ivory tower" league and will bring only sad disillusionment to these who subscribe to it.

The Marine Corps has fought hard for its place among the armed services of the world as the leader in the development and *successful execution* of the amphibious attack with qualification. We have attained this standing by keeping both feet on the ground and not forgetting for one minute that the amphibious operation has materially altered the strategic concept of global warfare and is capable of *decisive* results expected of us in the *successful* execution of our *assigned mission* within the armed forces. It is not for the Marine Corps to determine, or in any way assume, that a future war will not impose upon us responsibilities similar to those placed upon us in the past. The assumption that we can not hope to be capable of meeting the best our potential enemy has to offer in opposition to the execution of our mission, is not only misleading but is in direct violation of our sacred trust to the nation.

R. E. Brant,
Capt, USMC

Marine Necktie . . .

Dear Sir:

Hurrah and halleluiah to LtCol Heinl's idea for a Marine Corps tie.

Speaking of ties, why hasn't some branch of the service adopted a knit tie which would be a great improvement in both neatness and upkeep on most service ties?

Paul Reese,
Maj, USMCR

Military Investigator . . .

Dear Sir:

I have studied with much interest an excellent article appearing in the November 1949 issue of the Gazette entitled *The Military Investigator* by 1stLt Henry L. Checklou. This is one of the best critiques which I have read on this subject, a subject of considerable interest to all service personnel.

However, I find myself in basic disagreement with Mr Checklou on one significant point. In referring to interviews and interrogations conducted by the military investigator, Mr Checklou states that "all requests for counsel are courteously and firmly denied if formal charges have not been filed."

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This, I submit, is a violation of the basic legal rights of the individual, serviceman or civilian, as well as a breach of the procedures set forth in Naval Courts and Boards, particularly in Section 734 (d). The aforementioned section provides that the complainant, defendants, and interested parties before a court of inquiry or investigation shall have the right to the aid of a counsel. It is noteworthy that this is an expressed right, not a privilege. It may be argued that Section 734 (d) is applicable only in the case of an investigation operating under a precept, however, it should be noted that the only "investigations" permitted under Naval Law, as it now exists, are (1) courts of inquiry, (2) boards of investigation and (3) investigations composed of one officer. If investigations composed of enlisted investigators are to be permitted, I submit that a safeguard should be instituted to provide that the evidence obtained from such investigations be utilized for informational purposes only and be inadmissible in any legal action. If the investigation is, according to law, to consist of one officer, I submit that any person appearing before such officer, whether defendant or interested party, is entitled to counsel as a right, and that he should be so advised before any questioning commences. Altogether too often, an officer assigned as counsel to defend an enlisted man before a court-martial finds there to be a very weak case against the man if it were not for some product of a prior "investigation" in which the man had hopelessly incriminated himself. Further examination invariably shows that the man had been tricked into self-incrimination by denial of counsel during the investigation, violation of or failure to explain his legal rights, assorted trickery, promises made in bad faith, and other illegal methods too commonly used today to necessitate description. While it is sometimes possible to bar the admittance of "confession," prior inconsistent statements and admissions made during the investigation on the grounds of duress, undue influence, etc., the matter does come before the court, thereby creating a strong inference of guilt whether or not the matter is legally admitted into evidence. Generally the only one who can testify as to methods employed in the investigation from the standpoint of the defense is the accused, and courts are unfortunately prone to weigh very lightly the testimony of any accused. I have never yet heard an investigator admit in court to any illegality or even unpleasantry during the conduct of an investigation.

I submit that the service has a responsibility to its personnel in protecting their legal rights, and affording them, in fact, more protection than that to which they are legally entitled. The only legal right sacrificed by the man entering service is his right to trial by jury. This is sacrifice enough. I am not arguing that crime should go unpunished, but I do submit that it is far better that an offense go unpunished than one man be deprived of one iota of his rights in the course of an investigation.

I highly commend the readers to an article appearing in the October 1949 issue of *Harpers*. The author is Mr Bernard DeVoto and his subject is FBI and other federal investigations. Mr DeVoto takes the stand that anything which he has to say about any other citizen will be said only in open court, under subpoena, and before such citizen and his counsel. He indicates that any federal investigator approaching him for information will be the recipient of a drink, social pleasantries and talk about the weather or sports, but not about any other citizen. I commend such a procedure and believe that while it may make more difficult the punishment of crime it will afford more protection to the rights of the individual in these times when such rights are becoming fewer.

H. K. Thompson, Jr.,
2ndLt, USMC

The Old Corps . . .

Dear Sir:

This perennial argument about the deterioration of the Marine Corps that beats around our ears whenever marines or ex-marines gather, and which is aired in your columns month after month, has finally stirred me to take pen in hand. The hope of getting an extra five dollars towards Christmas expenses may be a motivation, too.

My father once said long ago, before I had ever heard of the Marine Corps, something very applicable. In speaking of another neighbor someone said, "Josh ain't the man he used to be." My Old Man said, "As a matter of fact, he never was."

One night in France in 1919 there was a conversation on this subject in one of the billets between a group of non-coms, with a lot of silent recruits listening. Many non-coms in that war did not have enough formal education to accept commissions so they remained excellent non-coms instead of becoming mediocre officers. One of the sergeants, of some 16 years service was telling somebody off. He said, "The Marine Corps is certainly going to hell with all these war babies in it. They are nothing but a bunch of doggone civilians." Another sergeant, a mere recruit of not more than 12 years service, agreed heartily, but a gunnery sergeant took exception as befitted his much longer service. He said, "Now, don't blame it all on the war babies. I've seen this coming for a long time. You 20th Century marines never have been much good."

At this writing I happen to be serving in an excellent regiment which is part of an excellent division. Personally, I would cheerfully take my chances in battle, against any opponent you want to name anywhere, with these officers and men. And I'll bet that most of these officers and non-coms and Pfcs will, with a little battle experience, qualify for commands and responsibilities far above their present ranks. Yet very little is the same in 1950 as it was in 1940, and 1945 of course, was vastly different from either. But 1940 was far different from 1939; and 1930 was a far cry from 1920. And in 1920 most of the old timers quit the Corps in droves "because it was all washed up."

Of course, there are knotty problems now, but there always were. Of course, we have some incompetents in every rank, and I mean every, but we always have had them, too. Their

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MARINE CORPS
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Cpl Robert F. Fleischner

The Story Of A Dream

By Fred A. Ruoff

Illustration by Cpl Robert F. Fleischauer

THIS IS A STORY OF A DREAM. IT BEGAN DURING THE first World War when Secretary of the Navy Josephus Daniels pictured a huge Navy educational program, one which would give all men of the Navy an opportunity to gain an education while serving their country. In the face of seemingly insurmountable obstacles, Daniels was forced to abandon his dream. A few years later several Marines had a similar idea; they knew that a previous attempt had been scuttled, but men like Generals John A. Lejeune and Smedley D. Butler and Col William C. Harllee didn't know the word "failure"—they turned the idea into a working fact. This month marks the 30th anniversary of the materialized dream; 30 years ago, on February 2, 1920, the Marine Corps Institute changed from an idealistic, nebulous conception to a tangible, vital reality.

This is the story of a dream, but it is also the story of those men who rebelled against all the time-honored conceptions of in-service education. Now, after 30 years, let's look back to the beginning in order to solidify the fact before it turns to myth or legend.

Gen Lejeune was assigned to duty as Commanding General of Marine Barracks, Quantico, in October, 1919, after spending almost a year in post-war Europe. Both Gen Lejeune and his executive officer, "Old Gimlet Eye" Smedley Butler were shocked to find the extremely low morale shared by officers and enlisted men alike. During the war Quantico had been a thriving, exciting place—combat troops received their final training there, and many replacement battalions passed through on their way to the "great adventure." When Gen Lejeune assumed command of the post, a year after the armistice, the normal peacetime let-down had set in. No longer did the excitement of war urge the troops to drill endlessly; no longer did the sound of reveille greet men who thought "today might be the day we shove off." Now drill was a dull, tiring, and pointless routine; now reveille meant only another day of monotony and boredom. Explaining his reaction to this situation, Gen Lejeune said: ". . . we came to the conclusion the best thing we could do to build up the morale of these men and to maintain it was to give them a chance to go to school, not making it compulsory but voluntary. All of us who have been in service for a great many years know that in time of peace you can not drill men all day long; they become stale and get tired. Two or three hours a day . . .is all a man will take and still keep up his interest. So that has left in the day's work of the men a great deal of time for idleness, and the old saying that the devil finds a great deal of mischief for idle hands to do is as true now as it has ever been." Gen Lejeune saw the problem which had to be overcome and he told of the evolution of the plan to solve it: ". . . Quantico is a quiet place and we had a good deal of time to think and dream; we had a vision of what a military organization could be made, where every man who came into the service could have an opportunity to obtain an education."

Here is the same thought which had previously come to Secretary Daniels: a school which would benefit *every man who came into the service.* Perhaps Daniels had failed because his all-encompassing goal led him to start too ambitiously. Lejeune also was a visionary, but his first efforts were on a smaller scale.

ONE MONTH after Gen Lejeune assumed command at Quantico, a Post Order, issued 12 November, 1919, established three schools: Automobile Mechanics, Music, and Typewriting and Shorthand. The order further stated that new schools would be formed as soon as qualified instructors could be found.

This was not the earliest post school in Marine Corps history; in 1839, Colonel-Commandant Henderson established a school at Marine Barracks, Washington. The purpose of his school was to provide an elementary education for the fifers and drummers who were "bound to learn music." Col Henderson wrote to the Secretary of the Navy: "A school in which are taught the elementary branches of education is kept in the barracks. From these boys so instructed arise our most useful non-commissioned officers. . . . Should the Marine Corps be enlarged, the utility of the school will expand with it." Col Henderson's prediction did not come true in his lifetime, but—knowingly or not—Gen Lejeune took up the gauntlet.

The big news broke in Quantico on November 21, 1919, when *The Leatherneck* (then a single-sheet post newspaper) ran the large-lettered headline: "PLAY OR GO TO SCHOOL EVERY AFTERNOON IS NEW PROGRAM HERE." A lengthy article enlarged on the headline. The new routine, scheduled to go into effect on December 8th, would free all men of their military duties

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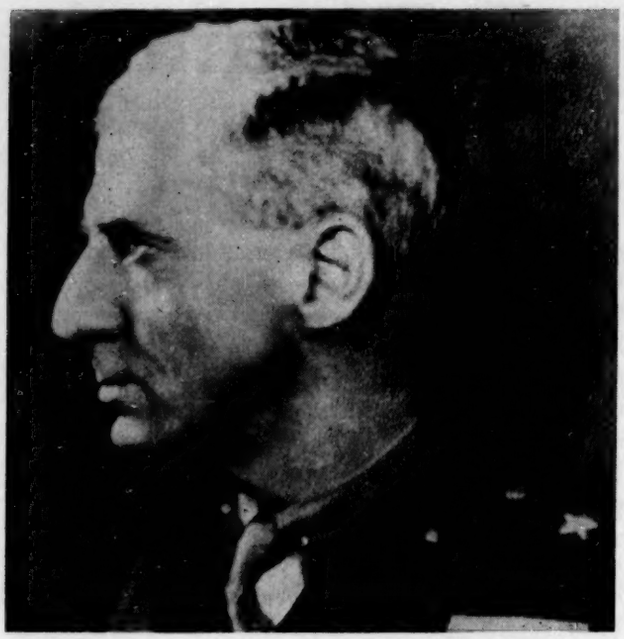
Mr Ruoff is a former Marine who presently is a staff instructor at MCI where he supervises the academic performance of the College English Section. He holds the degree of AB from Dartmouth, MA from Rutgers, and is now working on his PhD from Pennsylvania.



Gen Butler: ". . . no bluff about this new school . . ."

after noon each day. A post-wide recreational program would include dramatics, singing, all sports, and education. All men in the command would be required to enroll for some afternoon activity; if a man could find nothing to his liking, he would be permitted to work!

Speaking of the athletic teams, the entertainment groups, and the schools, Gen Lejeune said: "We want everything in Quantico to be the best . . . and as the men here are all Marines, I know they are going to turn to and work until they are the best there is in the line they choose, just as Marines have a habit of excelling in every line. . . ."

On December fifth, the post paper carried the headline, "Entries in New Classes Surpass Expectations." The story revealed that more 100 students had signed up for the pioneer class in Gas Engine Design and Operation. One of the first surprises in the program came with the unexpected interest shown by many officers. Although it was not specifically stated, the original intention was that the schools should be wholly for enlisted men. After the first day of enrollments, the names of 40 officers appeared on the roll for the initial course. When the class began, officers and men sat side by side; all ranks united in the quest for knowledge.

The automobile school opened on the eighth of December. Lt Davis, the Principal of the school, immediately divided the men into three classes, based on their familiarity with the subject. According to a first-hand account, the residents of Quantico were amazed to see the "queer antics" of the largest number of trucks they had ever seen on the usually peaceful streets—the inevitable result of the first field exercise in the beginning driving course!

December 20, 1919, is one of the most important dates in the history of Marine Corps education; on that day LtCol William C. Harllee reported to Quantico and was immediately assigned to duty as Assistant Chief of Staff in charge of Vocational Training. The fact that Col Harllee had taught school for a short time led one student of this subject to write: "The Colonel was notorious throughout the Corps as a schoolmaster." A more accurate rendition might read, "The Colonel was notorious throughout the Corps"—"Bo" Harllee was anything but the traditional schoolmaster type. If we are to understand the early development of education in the Corps, we must first understand Col Harllee. Without his power to defy tradition, without his tremendous drive and vitality, the success of Gen Lejeune's school might not have been so spectacular.

William Curry Harllee was born in Florida on June 13, 1877. Between 1890 and 1894, he attended Oak Ridge Institute (N.C.), South Carolina Military Academy, and the University of North Carolina. He taught school in Florida until entering the U. S. Military Academy in 1897. Two years later he was separated from West Point for a "discrepancy in discipline." This is the earliest recorded suggestion of Col Harllee's opposition to tradition; throughout his career we see him again and again battling against tradition whether it was manifested in the old-time military caste system, the combat tactics used by his superior officers, or a hard and fast belief that an education would make a Marine a poor soldier.

If Col Harllee was a rebel, he was also an excellent soldier. From West Point, he enlisted in the Army and was immediately sent to the Philippines where he fought against Aguinaldo's guerillas. In this campaign Harllee was promoted to corporal, and—on December 3, 1899—he received a letter of commendation from the Commanding Officer of the 33rd Infantry for conspicuous bravery.

On February 17, 1900, Harllee was commissioned a second lieutenant in the Marine Corps, a little more than two months after his Philippine campaign commendation. It is exciting to follow Col Harllee's Marine Corps career; his duty in China, the Philippines, Cuba, Santa Domingo, and Haiti was punctuated by many glowing letters of commendation and an occasional reproof.

Probably few active Marines realize the high place Col Harllee holds in the development of Marine Corps rifle practice. In 1909, Harllee saw the need for a rifle range which could be used by Marines stationed north of Norfolk. He was granted permission to construct a range at Stumps Neck, Maryland, and his success was so great that the Navy enlisted his services to construct the model ranges at Great Lakes and Caldwell, New Jersey.

Col Harllee was captain of the Marine Corps Rifle Team in 1908, 1909, and 1910. The manner in which he assumed this responsibility points to a definite pattern; Harllee studied the situation, thought about it, and acted

decisively. The Colonel collected information on rifle practice from all nations; he kept a voluminous notebook, and when he learned all he could about the subject, he evolved a new method of coaching his teams. Gen Thomas Holcomb remembers Col Harllee as the man who did most to systematize the teaching of rifle practice for Marine teams.

THE FIRST RIFLE SCORE BOOK was created by Col Harllee, and for years it was known as "The Harllee System." As a result of his leadership in rifle practice, Col Harllee was made First Vice President and a Life Director of the National Rifle Association in 1909.

Col Harllee's entire service career indicates his impressive ability as a tactician in the field and his strong dislike for garrison duty. In light of this fact it is surprising that he turned to his job as officer in charge of vocational training at Quantico with such zeal. An attempt to get to the bottom of this seemingly paradoxical behavior revealed a situation only hinted at in previous accounts of Marine Corps education. Most accounts of the Quantico schools in 1919-1920 employ terms such as "universal appeal" and "wide-spread acceptance"; no accounts emphasize the fact that a great many Quantico Marines regarded the new schools as just plain sissified nonsense. When Col Harllee took on his new job, he was immediately presented with a challenge that would have defeated a less forceful man. The group of dissenters—the officers and men who thought that all a Marine should know was how to conduct a successful campaign—made life miserable for the students of the schools. A few men who were stationed at Quantico 30 years ago recall the jeering lines of Marines the "schoolboys" had to pass through on their way to classes. The success of the program was largely due to the intelligent, fiery, and even rebellious nature of Col Harllee.

We have dwelled on Col Harllee at some length because his ideas and the force with which he put them into effect determined the entire future policy of education in the Corps. Although his name will henceforth be mentioned less frequently, the reader should remember that Col Harllee directed all the activity we shall now recount.

On January 2, 1920, Post Special Order No. 299 announced that 13 new schools would open on January 5th. These schools were: Typewriting, Stenography, and Clerical Work, Equitation (shades of the Horse Marines!), Forestry, Concrete, Carpentry, Electrical Mechanics, Band Music and Playing, Blacksmithing, Painting, Plumbing, Cooking and Baking, and Drafting. A simple reading of the list is enough to make one realize that these courses were set up to train men for a more useful service career and for an opportunity to enter a gainful occupation upon discharge. This two-fold purpose, established 30 years ago, is still in force today.

The fifth of January saw the official opening of the Vocational Training Schools at Quantico. The high

Gen Lejeune: "School, athletics, or work—every day."

purpose of the program was brought into focus by Gen Smedley Butler, in his "Convocation Address." Here is the heart of Butler's address: "I hope and believe that the time will come when a young man who cannot afford to go to a private military school, and has not the political influence to get into the United States Naval or Military Academies, can enlist in the Marine Corps, and be sure that he will receive as good an education and as much military training as the man who goes to either of the Government academies or to an expensive and fashionable private military school. Of course, we can only start in a small way, but even now we are equipped to teach any of the useful trades, or common school or high school subjects. . . . There is no bluff and no foolishness about this new school movement. We are offering every man in the post the chance to learn a trade by which he will be able to earn a good living when he is discharged from the service or to secure a good school or high school education. Those who desire to take advantage of this opportunity will be given the whole of the afternoon to study and to learn. I hope the time will come when every man in the post will be taking one or more courses of study." Quantico never did see that day, but the schools eventually grew beyond the highest hopes of Gen Butler.

THE NEW SCHOOLS were faced with a setback a short time after they opened, when a flu epidemic forced them to close for an indefinite period. They remained closed for two weeks, but when they reopened on February second, several new courses had been added, and that date is now considered the traditional founding date.

The problem of selecting excellent course material was difficult to solve. In the early weeks of the program, Col

Harllee traveled extensively, observing schools and colleges at all levels. Finally, during the first week of February, he arrived at the main office of the long successful International Correspondence School at Scranton, Pennsylvania. After a close examination of their study materials, Harllee told Mr Weeks, the International Correspondence School president, that the Vocational Training Schools would like to use all of their course materials, since they were ideally suited to the Quantico plan. The Colonel had not been given official sanction to make any purchases, nor had he been given any money. This mere detail, however, did not bother him; he ordered $4,000 worth of textbooks, lesson leaflets, and study guides, promising, on his word as a Marine Corps officer, that Mr Weeks would be paid at some obscure future date. On February sixth, the Vocational Training Schools began International Correspondence Schools' materials in all courses. A fixed percentage of lessons were sent to Scranton to be graded, and all final examinations were processed there. When a student completed a course he received a certificate from International Correspondence Schools as well as from the Marine Corps. A short while later Marine instructors were assigned to temporary duty at Scranton where they were indoctrinated in the latest teaching methods.

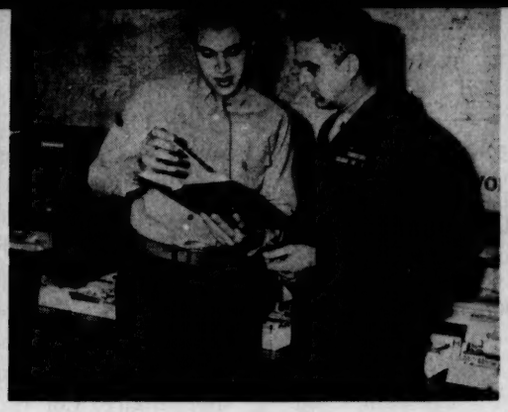
Soon after the classes began, Secretary Daniels wrote to Gen Butler, requesting information on the new Marine Corps schools. Daniels received Butler's reply with enthusiasm, and he authorized the distribution of a press release announcing the plan. This news story is noteworthy because it contains the first public use of the new name for the school—the Marine Corps Institute.

ASSEMBLIES were held frequently, and addresses were given by Gen Lejeune, Gen Butler, or Col Harllee. One of Gen Butler's speeches must have had a tremendous effect on his audience. It is noteworthy to us because it states the high ideals of the founders of Marine Corps education, and it shows the radical nature of the whole scheme—and, of course, because it shows Smedley Butler in one of his most eloquent moods. Here is what he said on the twelfth of April: "This school is a revolution. It is something new. The old officers of the Marine Corps would turn over in their graves if they knew what we were doing, because in the old days they did nothing but soldier. We want to make this post and the whole Marine Corps a great university. We want to find out who our most capable men are and to give them opportunities accordingly. We want to make this a post of equal opportunities for all."

"I want to demonstrate the point I am driving at by an incident that happened while I was in command of a certain camp in France. One night a detachment of men came marching up into the camp entrance under the command of a good looking man, who I supposed to be a captain. It was raining to beat the devil, so I said: 'Captain, take your men on down to billet so and so and have the cook in mess house so and so feed them, get something to eat yourself and then report back here to me and I will get a place for you to sleep.' He returned in about half an hour and reported that the men had been fed and quartered and that he himself had had something to eat. I said, 'That's very good, Captain, now come with me and I will find you a place to sleep.' He said, 'I'm not a captain.' 'Alright, then lieutenant.' 'But I'm not a lieutenant.' 'Well, sergeant then.' 'I'm not a sergeant.' 'Well what in the devil are you then?' 'I'm a private.' 'You had charge of this detachment that just came in, did you not?' 'Yes, sir.' 'Well, I noticed several noncommissioned officers in the detail, how does it come that you were in charge?' 'I'll explain, sir. It was raining quite hard and the officer in charge halted down the road and went inside and left us standing in the rain. Everybody flopped down in the best spot he could find and I stood it as long as I could and as no one else made any attempt to find us a place to sleep, I took charge and brought them on in to camp.' The incident struck me so forcibly that I made a report to Gen Pershing and in a few weeks an order arrived making the private captain and the captain reduced to private. The same thing is going to exist here. If the captain can't lead his men and the private can, we are going to reverse it and make the private the captain. And we're going to pick our officer material right in this school because a man who can lead here can lead anywhere. When this school started there were but two sympathizers, Gen Lejeune and myself. But now that we have demonstrated what can be done I believe that there are mighty few 'doubting Thomases' in the post. We started it to run, AND IT'S GOING TO RUN."

It is not hard to imagine the ambition and drive with which the students turned to their lessons.

THE MARINE CORPS INSTITUTE emerged victorious after its first test by a legislative group. On February 26, 1920, the House Naval Affairs Committee called on Gens Lejeune and Butler to testify on the new program. A transcript of the hearing is as interesting to read as the best fiction. The apparent attitude of the Committee was: Is it possible to turn these schoolboys into an effective fighting force? Is the reverse possible? Gen Lejeune was firm in his convictions. He said: "You know there used to be an old theory that the soldier ought to be illiterate and like dumb, driven cattle. I think our experience in this war shows the more intelligence, the more education, and the more initiative a man has, the better soldier he is." He went on to describe the original morale-lifting goal of the Institute. The Chairman, still skeptical, asked: "What effect has this had on the spirit of the men?" In his answer, Gen Lejeune, the hero of St. Mihiel and Meuse-Argonne, showed his keenly sensitive nature. He replied:

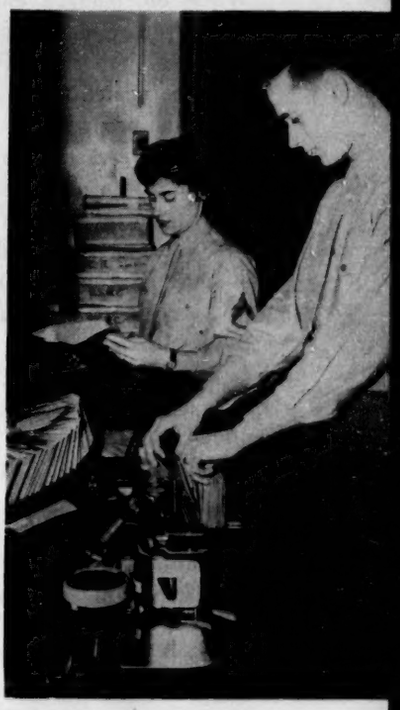


Above, left: The Institute maintains complete files on each of its 275,000 students, enrolled since 1920. *Above, center:* Instructor answers last-minute question prior to going to Congressional Library for research. *Above, right:* Institute facilities afford opportunity for instructors to keep familiar with subjects taught.

"Unquestionably it has improved; there has been a great improvement in the spirit of the men. You can tell that by hearing them speak and looking in their faces. Every night we have our band concerts, followed by half an hour of mass singing, and then entertainment of some nature, usually moving pictures, sometimes a theatrical performance, and sometimes a dance. . . . When you hear men sing, you can see the improvement, as well as by looking into their faces. I was up there the other afternoon and had all men assembled to talk to them on this subject, all the officers and all the men. I talked to them for half an hour, and I saw the most intense interest on every face there. They looked right at me and showed most devoted attention."

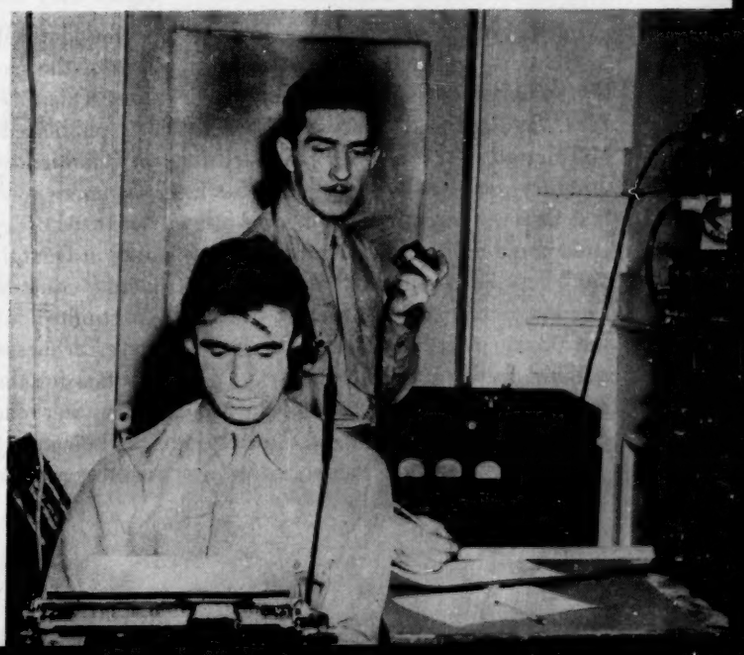
As the hearing progressed, two specific illustrations revealed different facets of the program's effect on the men. Lejeune told the committee of the curiosity of men from other posts concerning "the Quantico Idea." He said: "We had a sergeant come down from Washington the other day. He was a typical marine, a very fine looking soldier. He said, 'We are not looking for those fellows who want to go to school; we are looking for men who want to get three square meals a day; that is the type we are looking for.' We took that man and turned him over to Col Harllee and made him go around to all of the classes and talk to the men. He said: 'This is the finest thing I ever saw.' He was thoroughly converted." We can almost imagine the amused tone with which one of the members of the committee questioned. "You said he was a typical marine? With dignity and extreme pride, the General answered: "He was. He was a fine-looking fellow, an old-fashioned marine. He is not the kind of man you gentlemen ordinarily speak of when you say 'Tell it to the marines.' He wanted to find out."

Not all Marines were as well off as the sergeant Lejeune told about. When the committee asked about the military efficiency of the men being educated, the General related this incident: "One evening about 10 days ago an officer came into my office and said to me: 'I have found a young private who can neither read nor write; he seems like an intelligent youngster, but has never had the opportunity.' One of my aides, 1stLt J. B. Neill, heard this and said, 'I will take that man, sir, and teach him to read and write,' so we promptly started a primer school with Mr Neill in charge. Now he has 17 pupils, and the youngster who



Right: The mail section works at peak production to insure fast return of all lessons sent in by students. MCI regularly sends academic transcripts to schools and colleges for evaluation and credit. Thousands of marines have earned high school diplomas and college credits.

Below: Station W3QCA is the Institute's 500-watt "ham" unit. MCI's television and radio courses are excellent.



Fingerprint classification is explained by a civilian staff instructor. A Maryland University graduate, this instructor has had three years experience with FBI.

knew nothing is making fast progress . . . the devotion of that young man to Mr Neill is pathetic, and when you speak of leadership that man will go through hell at the wink of Neill's eye. Neill has more control over that man than he could have gotten in 10 years of 'right and left face' on the parade ground."

When the hearing ended, Gen Lejeune invited the legislators to see the Institute in action. On March fifth, the Secretary of the Navy and the House Naval Affairs Committee visited Quantico. No written record tells the story of the preparations for the occasion, but the record can never be erased from the mind of a man who was on the scene. With characteristic vigor, Col Harllee passed the word that every man at Quantico must have a book when the Committee made its inspection. What a scene that must have been! On that day 30 years ago there were surely men who had to practice for hours just to sign their names on the payroll. Imagine one of these men, blindly following the Colonel's order, playing the role of a schoolboy. He sits on the steps to his barracks, a battle-bruised campaign hat shielding his burned, sour face. An occasional brown jet spurts from the walnut-sized bulge in his check, and, with a meager attempt to mask his disdain, he stares at the book in his stiff fingers —perhaps Louisa May Alcott's *Little Women!* If the image strikes us as extremely humorous, it did not appear so to the visitors. *The Leatherneck* reported that "the visitors expressed themselves as very much pleased with the high grade of intelligence shown by the students, and surprised and delighted at the earnest determination shown by the men to better themselves and acquire knowledge."

Interest in the Marine Corps Institute was not confined to Quantico and its environs. Editorial pages of the nation's leading newspapers highly lauded the "Quantico Idea," and as the school system became widely publicized, Marines all over the world requested duty at Quantico so that they might go to school. In March, it was announced that during the entire month of April any man who desired could enlist in the Marine Corps for duty at Quantico, where he could take Marine Corps Institute courses. For the recruit this was an unparalleled opportunity; for the Marine already stationed elsewhere, however, it meant nothing, for he could not be assigned to Quantico for the sole purpose of going to school. The problem was one of deep concern to both Col Harllee and Gen Lejeune.

The new direction the Marine Corps Institute was to follow was determined in a dramtic way. On May 11, 1920, the threat of an outbreak in Mexico caused the 16th Marines to be dispatched to Mexican waters aboard the *USS Henderson*. Many men in the outfit were students of the Institute and they requested permission to carry out their studies. This request followed closely an idea Col Harllee had entertained for several months, and it gave him an opportunity to conduct an experiment. Acting on short notice, Col Harllee appointed Lt LeGette Marine Corps Institute representative in the field. Locker boxes were marked: "U. S. Marine Corps Institute. Keep on Deck." Lt LeGette was charged with the responsibility of issuing the textbooks, collecting students' lessons which he shipped to Quantico for correction, and enrolling new students. Less than three weeks after the *Henderson* got under way, lessons began pouring into Quantico, and with each group of lessons came dozens of new enrollments. Correspondence education had begun, and in keeping with all traditions, the Marines were first!

THE SUCCESS of the correspondence method of education was so great that when Gen Lejeune was appointed Major General Commandant of the Marine Corps, in June, 1920, one of his first official acts was to authorize Col Harllee to extend the scope of the Marine Corps Institute to the entire Corps. Thus it was that every Marine was given the opportunity—an opportunity still present —to improve his education regardless of his duty station.

The growth of the Marine Corps Institute exerted a large influence in many directions. *The Leatherneck*, for example, devoted an ever-increasing amount of space to news from the Institute; in perusing the newspaper, it is not uncommon to see feature editorials titled: "Hints on How to Write an Essay" or "Points on Punctuation." When, in the late fall of 1920, the Marine Corps Institute moved to its new headquarters at Marine Barracks, Washington, D. C., *The Leatherneck* moved also, as part of the Marine Corps Institute detachment. *The Leatherneck* did not become officially separated from the Marine Corps Institute until March, 1945.

It is estimated that every Marine Corps Officer now on active duty has studied at least one Marine Corps Institute course. For many years after the establishment of the Marine Corps Institute, all officers were required to complete a course in French, Spanish, or German. Although that requirement no longer exists, officers are currently required to study the Marine Corps Institute course in

Regular staff discussions precede all changes in the curriculum, also instruction and examination methods.

Post Exchange Accounting.

Certain civilians closely connected with the Navy Department have taken Marine Corps Institute courses. The following framed letter is on the wall in the office of the Director of the Institute:

The Assistant Secretary of the Navy
Washington

June 2, 1920

Dear Colonel Harllee:

Many thanks for sending me the textbooks. My Daughter and I are going to get busy on them this summer and I am proud to be a student in your university.

Always sincerely yours,

/s/ Franklin D. Roosevelt

Lt. Col. William C. Harllee, USMC,
Marine Barracks,
Quantico, Virginia.

Less illustrious men have gained much from the organization that Gen Lejeune dreamed of in the quiet little town of Quantico. Let's look at one man's Marine Corps career—we'll call him Joe Schwaab. When Joe had completed the eighth grade, he had to leave school and get a job to contribute to the support of his family. For four years he shifted from job to job. Finally, dissatisfied with the life of an overcoat salesman, Joe enlisted in the Marine Corps, and a short while later, he began to take Marine Corps Institute courses. The list of courses Joe completed is amazing; in less than five years, he had submitted almost five hundred lessons; he had completed 10 courses, one of them a standard high school course. Joe—who is now a regular Marine captain—received his high school diploma and the equivalent of two years of college in five years of diligent, untiring work. He did not neglect his military duties for his education, because during the time he was taking his many courses he rose from private to sergeant.

The case of Capt Schwaab—the name is the only fictitious element in the story—is outstanding, but it is not unique. Many other cases could be cited to show that the vision of the great men of Quantico really did—and still does—pay off.

As the Marine Corps' science of amphibious assault kept abreast of technological developments during the twenties and thirties, the Marine Corps Institute maintained its pace with educational progress. Many new courses were added to the curriculum, and the instructional staff was more than doubled. But, in July, 1940, as the well-oiled Nazi machine presented an arrogant, aggressive front, as relations with Japan deteriorated, the Commandant issued an order calling for the suspension of Institute activities in the event of war. In accordance with Gen Holcomb's total mobilization order, all operations were suspended the day following the attack on Pearl Harbor. A large percentage of the staff was ordered immediately to recruiting duty.

On the twelfth of January, 1942, the Director of the Institute recommended to the Commandant that he Marine Corps Insitute be reopened, and the recommendation was approved on the nineteenth. The skeleton staff of the Marine Corps Institute was augmented by 38 highly qualified recruits from Parris Island, and by the end of January the entire corps was notified that the Institute's facilities were again available to all Marines.

Before many months had passed, it was noticed that many students were enrolling in courses which would permit them to complete their interrupted high school courses. Liaison was established between the Marine Corps Institute, state department of education, and individual high schools. When a student sought guidance from the Institute, his case was studied, and he was advised concerning the courses he could take to enable him to graduate from his own school. This procedure, one still in effect, proved to be highly successful from its inception.

To facilitate its service to Marines in the Pacific, a branch of the Marine Corps Institute was established in Hawaii, in 1945. The Pacific Branch issues textbooks to students, forwards all lessons by air mail to the Institute, and eliminates much delay in many administrative functions.

The growth of the Marine Corps Institute during the war was enormous. Enrollments increased from 7,183 to 63,118; monthly lesson submissions jumped from 1,377 to 36,985, and 129 new courses were added to the curriculum.

Since the war, many of the highly qualified Marine instructors accepted discharges and experienced civilian teachers, most with advanced degrees, were placed in charge of the academic work in all the schools. These staff instructors train Marine instructors, revise courses, write examinations and complete new courses, and advise the officers in charge of their schools. The Marine Corps Institute tradition of "Education For Marines by Marines" has gone largely unbroken, for most of the staff instructors served in the Marine Corps during the war.

Today the currently enrolled Marine Corps Institute students would fill more than two whole divisions; 11,000 lessons are received each month; and well over 2,000,000 lessons have been processed in the 30 years since the Institute's beginning. We should not, however, end with a statistical recitation, for this has been the story of a dream and of the men who made it work. Today, as a result of the dream, thousands of men have gained benefits that do not submit to tabulation; today men of all services may improve themselves either in the school started by Lejeune, Butler and Harllee, or in the numerous service correspondence schools patterned after it. For men of the Marine Corps must ever be indebted to those whose story we have told. USMC

Atomic Defense— A Constructive Approach

By LtCol Richard D. Wolfe, CE
Deputy Director, Naval Radiological Defense Laboratory

SINCE THE ADVENT OF THE ATOMIC BOMB, MANY articles have appeared in the public press and elsewhere concerning the terrifying after-effects of the radioactive contamination produced by the explosion. Unfortunately, much of this writing has been in thoroughly alarmist vein, implying or stating in so many words that nothing can be done immediately to minimize the effects of this contamination or subsequently to remove it. These exaggerated "scare-hear" statements have frequently been in error as to fact. More important, in best Sunday-supplement style, they have often presented ideas by implication and "facts" by conjecture, all of which are calculated to produce the impression that the radioactive after-effects of atomic explosion are always present, always horrible beyond imagination, and impossible to do anything about.

This is a negative attitude which is completely inconsistent with our national character as a vigorous people who can tackle a practical, finite problem, however complex, with ingenuity and with improvisation if necessary, to arrive at a workable solution. The correction of the unfortunate impression which the "nothing-can-be-done" school of thought has attempted to create in the public mind is the subject at present of an educational campaign sponsored by the Atomic Energy Commission, the Armed Forces Special Weapons Project, and other agencies.

THE BOMB AS A BLAST WEAPON

No attempt is here made to minimize the immediate blast effect of the bomb as an explosive weapon. But as pointed out in a recent issue,[1] the bomb is a finite weapon which differs in intensity but not essentially in quality from other weapons. Its immediate effect as an explosive on materiel and personnel in the worst case could be reproduced by high explosives; high explosives used in conjunction with chemical warfare agents could in turn reproduce the contamination effect if numbers of casualties rather than type of injuries are used as a criterion of effectiveness. The defense against the explosive effects lies in dispersion, in placing a few key installations underground, and in preventing the enemy from delivering the weapon in one's own neighborhood.[2] If it be argued that this constitutes no real defense, then equally there is no defense against mass strategic bombing as practiced by this country and its allies in the war just concluded.

Considering the bomb as essentially a large-scale blast producer (in which role it utilizes its destructive power most efficiently), it creates maximum physical damage when exploded in the air fairly high over the target, as was done at Hiroshima and Nagasaki. In this case, in which it acts predominantly as a high explosive, any direct radioactive effects are practically instantaneous with the explosion and cause not more than 10 to 15 per cent of personnel inquries. The radioactive by-products of the explosion boil up immediately in the cloud of hot gases, and are dissipated to infinite dilution in the upper atmosphere. Residual contamination on the ground is minimal or non-existent.

THE BOMB AS A CONTAMINATION WEAPON

When the bomb is exploded beneath the surface of water or earth, it does become in some measure a new weapon.[3] In this case the only practical evidence we have to go on is the Baker Test (underwater explosion) at Bikini. From the data of this test and by analogy to underwater or underground conventional explosions, the surface damage produced will be much less than in the case of the air burst. There will also be damage from the subsurface shock wave to ships and utilities in an area roughly equal to that damaged by an air burst. The additional new aspect is that the water or earth thrown up by the explosion contains a fair proportion of the radioactive by-products of the explosion, and will probably be distributed over an area approximately equal to that suffering maximum damage in the case of the air burst. The comparison between the air burst and the subsurface burst reveals the following facts. (*a*) The air burst produces immediate destruction or damage to materiel, and in the absence of forewarning, to personnel in an area say three miles in diameter. (*b*) The subsurface burst produces

[1] "Industrial Vulnerability to Bombing," Maj General C. F. Robinson, *The Military Engineer*, January-February 1919.

[2] "Nuclear Weapons," LtCol A. W. Betts, *The Military Engineer*, March-April 1949.

[3] "No place to Hide," Dr. David Bradley; Little, Brown and Company.

This article appeared in the November-December issue of The Military Engineer. *It is reprinted here through the courtesy of the editor, Col. F. H. Kohloss. Permission was also granted to reprint the original illustrations.*

immediate destruction or damage in a smaller area (say one mile in diameter) and in addition covers the three-mile diameter area with radioactive contamination which does no material damage, but which is potentially dangerous or lethal to animal life.

It is evident, therefore, that the only new feature of the bomb as a contamination weapon is that it differs in quality from the bomb as a blast weapon. The extent of physical damage to structures in the subsurface explosion is less; whereas the number of personnel casualties in the area in the worst case is probably no more than with the air burst. Herein lies the fallacy in the claim that the underwater or underground burst is a more dangerous and destructive weapon than the air burst; on the one hand the damage done by the air burst inside the three-mile diameter is immediate, and is effective in destroying both material things and living creatures; on the other hand the immediate damage from the subsurface burst is much smaller in area, and the potential danger from contamination which extends to the three-mile diameter applies only to living things, is not instantaneous, and therefore permits action to be taken in mitigation of the hazard.

Three factors permit reduction of casualties in this doughnut-shaped area lying outside the radius of the heavy physical damage and inside the radius of radioactive contamination. The first is the fact that the contamination falls from the air in the form of rain or dust, or both, in a matter of say five minutes after the explosion occurs, and thus is restricted initially to external surfaces of buildings and to ground areas. Now the dangerous radiations emitted from the contamination are dissipated by distance, and by the shielding afforded by any solid material such as earth, or the walls or roof of a building. Thus, if the populace can be trained to remain indoors in the center portions of structures, as far from outer walls and roof as the building permits (perferably in basements), being careful to wash off any contamination which they may have acquired by contact with the outdoors, casualties can be considerably reduced. The populace must be further convinced that it must remain in such protective isolation, whatever the inconvenience, for at least four days, as explained below.

The second factor, which in reality makes the first effective as a measure of protection, is the fact that the radioactivity in the contamination dies out quite rapidly as an inverse exponential function of time following the explosion, such that within approximately four days movement can be permitted in the area by properly equipped working parties for limited periods of time. This permits the third defensive phase to became active, that is, evacuation of personnel, together with decontamination.

Decontamination

The statement has frequently been made (often by supposed authorities on the subject) that decontamination is impossible, or at best impracticable.[3,4] This echoes the

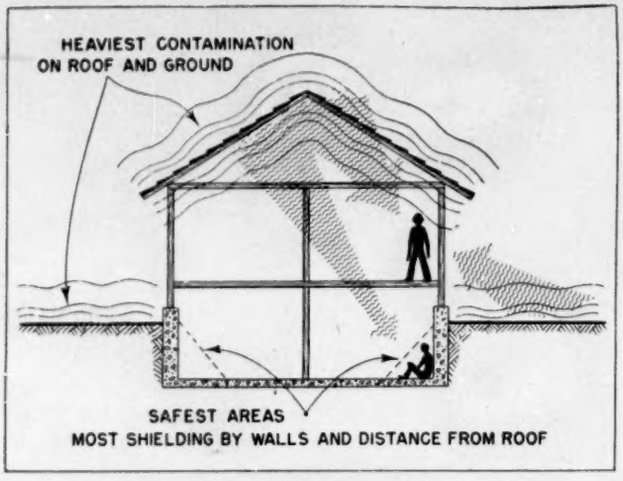


Diagram of contamination protection.

negative do-nothing-approach mentioned above. The statement is untrue both in fact and in implication. Much has been learned concerning practical methods of decontamination, and research now in progress at the Naval Radiological Defense Laboratory and elsewhere gives promise of even better methods than are now known.

However effective these methods may become, it should be realized at the outset that they will always be expensive in man-hours and materials; sufficiently so as to preclude anything approaching complete decontamination of areas and structures immediately following an underwater or underground burst. Initially, decontamination efforts will probably be limited to those predetermined approach ways, areas, and structures whose reoccupation and continued use are vital to prosecution of the war effort. After evacuation of personnel, other areas must be blocked off and isolated for the time being. Later on, the decision can be made whether it is cheaper to decontaminate, to replace the structures and facilities in a new area, or to delay for a period of months until reduction of radioactivity by decay has reduced both the personnel hazard and the difficulty of decontamination.

Practical field decontamination to date has largely been concerned with the decontamination of ships following the atomic bomb tests at Bikini in 1946. The methods used are successful in removing contamination, although they are considered to be inordinately time-consuming and expensive. Ships have nevertheless been completely cleared for normal usage as a result of decontamination performed by the San Francisco Naval Shipyard in conjunction with the Naval Radiological Defense Laboratory. In general, the results indicate that any ship, no matter how badly contaminated, can be successfully decontaminated by present methods provided the ship itself is sufficiently valuable to warrant the time and expense involved, together with replacement of such equipment as cordage, wooden decking, et cetera.

[4]"Civil Defense for National Security," page 78, Report of the Office of Civil Defense Planning, U. S. Government Printing Office.

Research for Atomic Defense

Much of the work done by the agencies of the Manhattan Engineer District and later by the Atomic Energy Commission has contributed valuable information toward defensive measures. However, since their aims have been primarily toward development of offensive nuclear weapons and the development of nuclear power, none of these agencies has pursued an integrated program aimed at the defensive aspects of the problem. In fact, the only agency in the nation, service or civilian, which is actively prosecuting a broad research and development program pointed toward defense against the various forms of radiological warfare is the Naval Radiological Defense Laboratory (NRDL) at the San Francisco Naval Shipyard.

The NRDL grew initially out of the necessity for decontaminating some of the ships which participated in the Bikini test. Its nucleus was set up in November 1946 when several of these ships were brought to San Francisco for decontamination and rehabilitation. The phase of ship decontamination has been essentially complete for many months. Since those early days the scope of the laboratory's activities has broadened immensely and it has grown in size until it now employs approximately 171 civilians, 19 officers (including four Army officers), and 21 enlisted personnel and occupies 90,000 square feet of floor space in part or all of 13 buildings.

The present research program of the laboratory embraces four principal fields of endeavor: (1) Studies on the contamination and decontamination of land installations, ships, and aircraft; (2) Evaluation, test, and development of radiation detecting instruments including portable and semi-portable survey instruments and such laboratory-type instruments as are necessary in prosecuting the work; (3) Investigation of individual and collective protective devices to determine their ability to safeguard personnel against inhalation and ingestion of radioactive material; (4) Investigations in the medical and biological field with a view to determining the nature of radiation sickness and the means of early diagnosis of radiation damage together with prognosis as to probable effects on the efficiency of the individual and his life expectancy.

Put in another way, the first job of the NRDL and of the National Military Establishment to implement radiological defense is to provide for the immediate and continuing safety of personnel. This involves determining allowable limits for each type of radiation under varying operational situations. Following that, instruments must be provided to indicate what kind of radiation is present and how much there is. The next step is to provide diagnostic procedures to determine the imminence of radiation damage, to establish criteria for its detection and estimation of its seriousness either in the immediate post-

irradiation period or distant future. A very important auxiliary job related to the latter is the one of working toward an understanding of the mechanisms of radiation damage, so that treatment of it can be provided on a more rational basis than is now possible.

The second principal task is the discovery and development of expeditious and economical means of removal and disposal of radioactive contamination, meanwhile providing protection for personnel engaged in this operation to insure that they are not over-exposed in the process.

The laboratory is supported in its research program by funds from several Navy bureaus, from the Army Corps of Engineers through the Army Chemical Corps, from the Armed Forces Special Weapons Project and the Air Force; and by personnel from the Public Health Service. Close liaison is maintained with a number of agencies of the Atomic Energy Commission, with the Army Signal Corps, and with a number of other governmental and commercial activities.

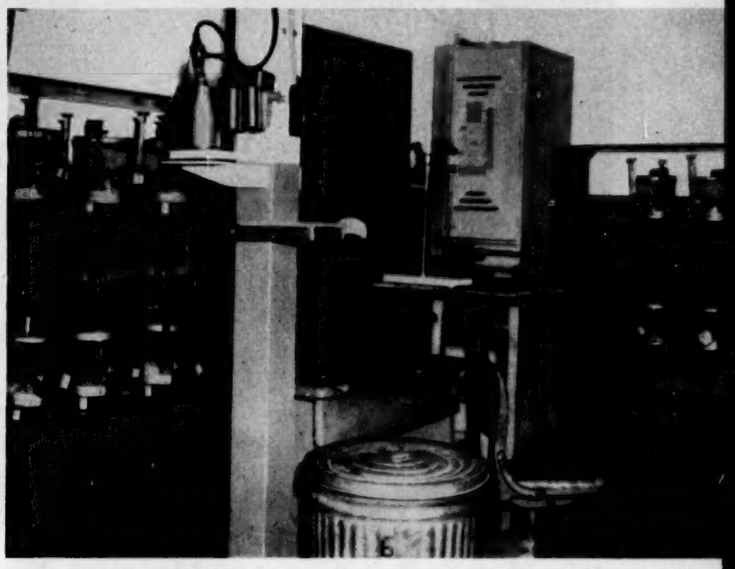
The laboratory is a co-ordinate department of the San Francisco Naval Shipyard, but is under the direction of the Shipyard Commander only for administration and logistic support. The technical and scientific operations of the laboratory are supervised directly by the Bureau of Ships of the Navy Department in Washington.[5]

The scientific work of the laboratory is carried on by seven branches operating directly under the Scientific Director. These consist of Chemistry, Physics, Health-Physics, Biology, Instruments, Engineering Applications, and Technical Information and Materials Control, each headed by a civilian scientist or engineer who is a specialist in his field and its application to nuclear work.

As stated earlier, one of the principal efforts of the laboratory is the field of decontamination studies, for which the burden of research falls on the Chemistry Branch and its Chief,[6] and also on the Engineering Applications Branch.[7] The mission of the Chemistry Branch and, in part, of the Engineering Applications Branch is to find practical means of decontaminating structures, ships or aircraft which have become contaminated by radioactive materials as a result of some form of radiological warfare, and to investigate practical means for eliminating or minimizing initial contamination.

Depending on the time intervals after the blast (assuming an atomic bomb detonation), the contamination may consist of a mixture of part or all of some 50 elements which have been rendered radioactive by the explosion, plus unexploded material from the bomb itself. This contamination is deposited initially on surfaces by "falling-out" from the radioactive cloud, or is contained in water or earth thrown up by an underwater burst. In general, the contamination is found to be associated almost entirely with the external surface of the area on which it lands. Thus, there are three general methods toward decontamination, or toward preventing contamination. The first consists of surface removal methods. In this category are the successful methods used to date in decontamination of ships. In crudest form they include paint removal by caustic solutions, and such brute-force methods as sandblasting and scraping to remove paint and part of the surface of the material. The second approach is that of decontamination without affecting character or quality of the surface; this method includes the use of chemical solutions to dissolve the contaminants and to carry them away. The third method involves the means of preventing contamination, including such devices as the interposition of a water film on the surface, which mechanically impedes the attachment of contamination to the surface itself. Obviously, there is great variation in the relative contaminability of various surfaces. Natu-

Instruments of the Health-Physics Branch used for assessing radiation hazards in protecting personnel.



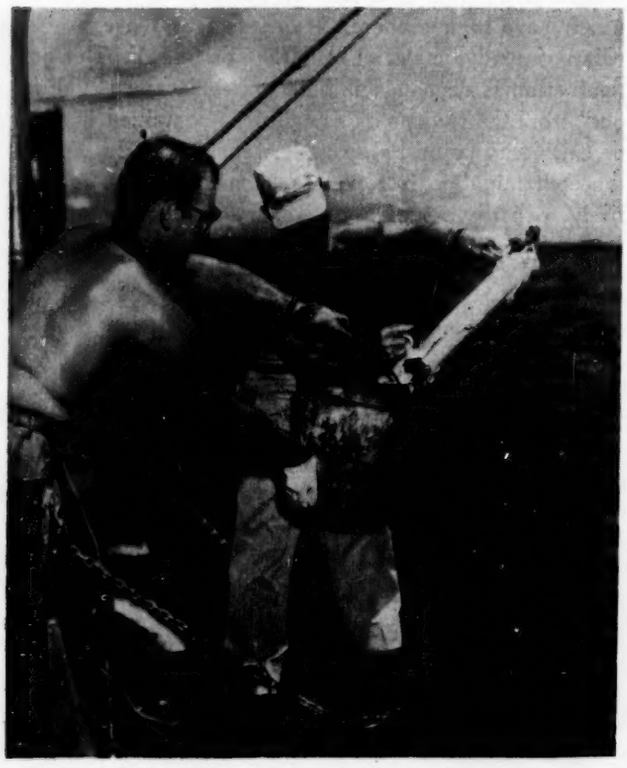
One room of small-animal colony.

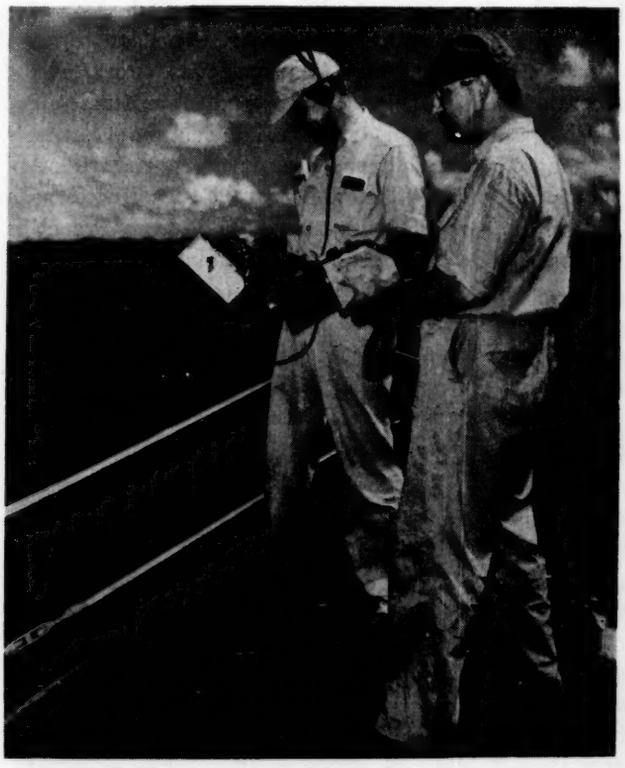
[5]The laboratory is headed by a Naval Officer as Director, Comdr J. J. Fee, an engineering duty officer who participated at Bikini, and who has "fathered" the laboratory from its first inception. Assisting him is an officer of the Corps of Engineers as Deputy Director, LtCol R. D. Wolfe. Under the Director, and in charge of the scientific program of the laboratory is the Scientific Director Dr William H. Sullivan, as nuclear scientist who is a veteran of some eight years' experience in the Manhattan Engineer District and the Atomic Energy Commission.

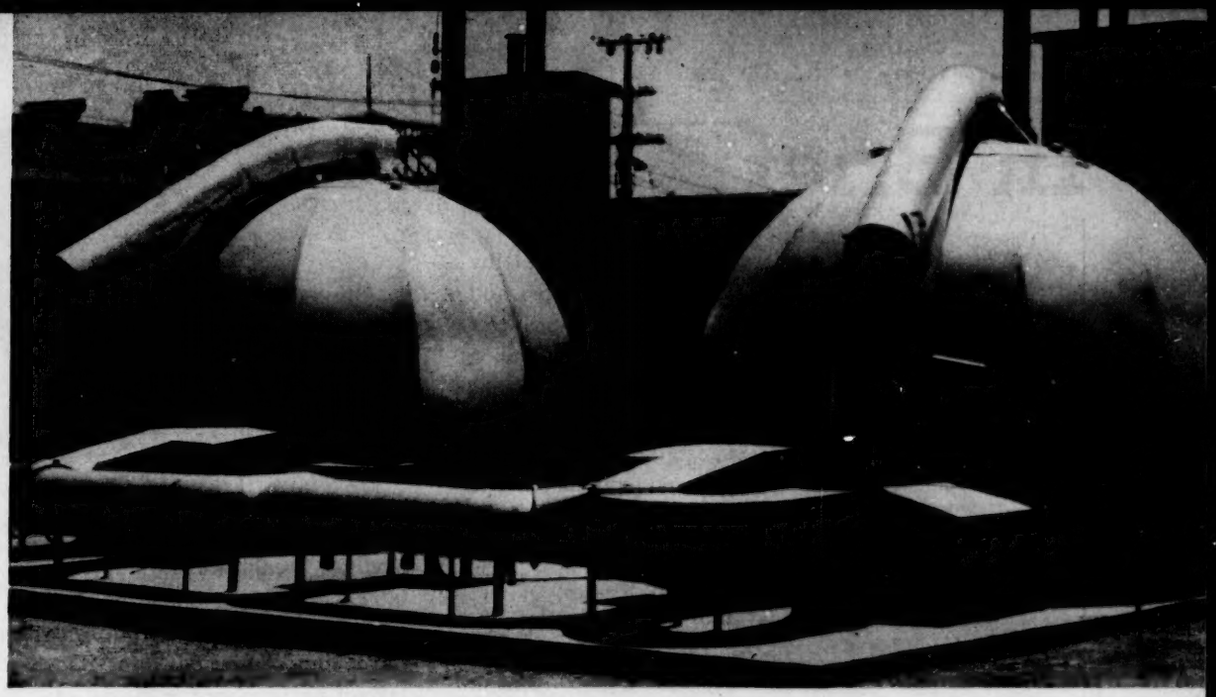
[6]Dr Claude R. Schwob.

[7]Headed by Mr W. E. Strope.

Above: Crew members of one of the Bikini target ships swab down deck to wash possible radioactive material overboard. *Below, left:* Safety monitors take sample of water from 90 feet below the surface of the lagoon at Bikini. *Below, right:* Geiger counter readings are taken from the bow of a gunboat on the way into the lagoon after explosion.







Test chambers for research in radioactive dusts and aerosols.

rally, rough or porous materials will tend to hold contamination to a much greater degree than hard smooth surfaces.

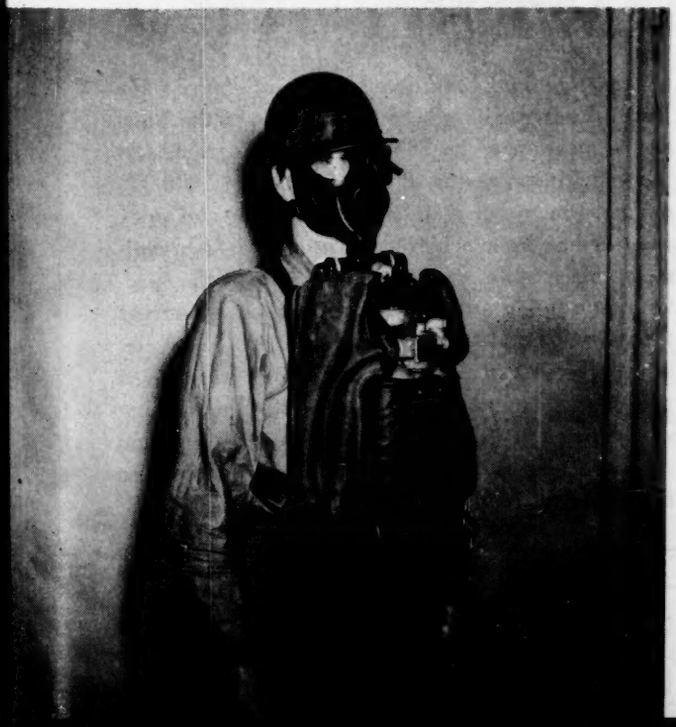
Planning, Organization, Training

As with all research, progress tends to be slow and laborious. Nevertheless, it is hoped that within approximately one year, practical, expeditious, and relatively economical means of decontaminating structures and areas will have been reached. This time limit applies to the fundamental technique as developed in the laboratory. Following this step, engineering development must take place and procurement must be instituted in order to make the benefits of these discoveries available for practical use by services in the field. In addition, personnel must be trained in the techniques of such decontamination work and in the use of the equipment developed. Organization must, therefore, be set up within the current organizations of Naval, Army, and Air Force units, all in co-ordination with similar plans for civil defense.

It is obvious that a great deal of thought and action must go into the job of preparing the military services and the civilian population to act both as organizations and as individuals, according to precepts outlined earlier, in order to minimize casualties as a result of radiological warfare. A start has been made in this direction, both by the military services and by the Office of Civil Defense Planning. The scope of the task is broad however; probably it will be of the same magnitude as the effort expended in producing the atomic bomb itself. It will not be solved by "shoestring" operations, splinter efforts, or by the part-time consideration of planning staffs, whether civilian or military. It requires an energetic, co-ordinated, integrated effort which has the support of an educated populace as well as of governmental and military agencies, backed by sufficient funds to implement a firm program. Such a program of organization, procurement of equipment, and training in its use will not be accomplished overnight nor in a period of a few weeks or months. The program will require vigorous prosecution if it is to be done in one or two years.

But the problem is finite, and far from impossible of execution. It is probably no more difficult of solution than the tremendously complex planning and training which was performed in preparation for any of the large amphibious operations of World War II, or in preparing the very effective organization of the British citizenry to cope with the air attacks in the *Blitz* of 1940 and after. Finally, it is a job which must be done, and the earlier the better, for our peace of mind and protection as a nation at least until international control of atomic energy becomes a reality and the threat of war is much less than it appears to be at present. USMC

Special protective devices worn by salvage personnel who went aboard target ships after the Bikini test.

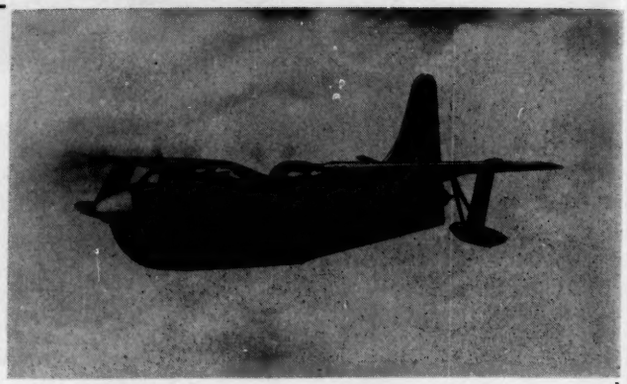


In Brief

The Air Force has transferred 30 B-17 Flying Fortresses to the Navy for continued research and development of AEW (Airborne Early Warning) equipment. The planes will be utilized as a source of spare parts for the two Navy AEW squadrons now using B17s. Experimental Squadron XV-4, Patuxent River, Md., is engaged in research and development of airborne electronic equipment. The other, VP-51, Miramar, Calif., is engaged in weather reconnaissance in the Pacific Area.

Enlisted personnel may now reenlist in the Marine Corps for a period of six years, Marine Headquarters announced recently. This type enlistment, outlined in the Career Compensation Act of 1949, affords a larger reenlistment compensation to career enlisted personnel. The Marine Corps has discontinued two and three year enlistments. Extensions of enlistments remain unchanged. Personnel reenlisting for a period of four years will receive a bonus of $160. Those reenlisting for six years will receive $360.

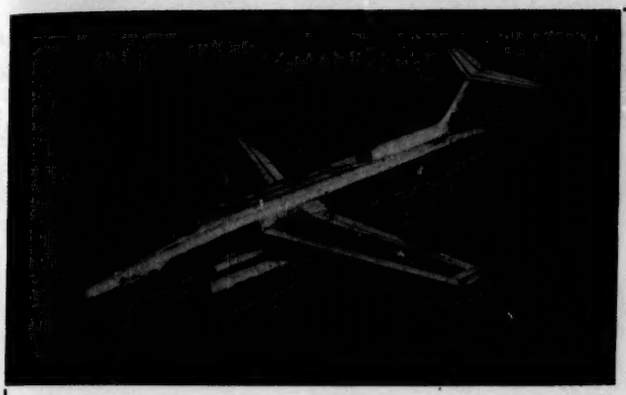
Shown here are a few of the "front line" aircraft of the U. S. Air Force as they were lined up on the parking ramp at Andrews Air Force Base, Maryland. The aircraft are from front to back, left to right, the North American F-86, Lockheed F-80, North American F-82 (night fighter), Republic F-84, Northrop B-49, Consolidated Vultee B-36, Boeing B-47, and the North American B-45.



Artist's conception of the Martin P5M-1, a twin-engined, "rough water" seaplane which is primarily intended for anti-submarine warfare, but will also serve as a cargo or general utility carrier. Featuring a long "afterbody" for improved landing and takeoff performance in heavy seas, the P5M-1 will carry the latest electronic equipment for submarine detection including a prominent bow radar scanner. The new seaplane will have gull wings, a single tail vertical stabilizer and a long "afterbody" which will practically eliminate the "step." Powered by two Wright 3350 engines, the P5M-1 carries a crew of seven.

A versatile new meter for measuring nucleonic radiations was announced recently by the Scientific Instrument Section of the RCA Engineering Products Department. The new Count Rate Meter, RCA Type EMA-6, will indicate by meter readings the average number of pulses per unit of time produced by a Geiger-Mueller counter or other suitable detector in the presence of nuclear radiations. The meter may be used as a laboratory monitor to indicate the presence of contaminated material, as an assaying device to determine the activity of nuclear fuels or isotopes, or to study the rate of decay of radioactive isotopes.

Ten thousand additional training billets for Naval Reservists have been provided for in the Navy Reorganization of its afloat training program. At the same time a saving of approximately $2,000,000 annually in vessel maintenance, upkeep, and dock charges has been achieved. The Navy's reorganization-inactivation program will result in the inactivation of 65 of a total of 172 training ships during the current fiscal year. A total of 2,826 Naval Reserve officers and 33,303 enlisted men were given two weeks' training duty in the reserve training ships during 1949. Under the new plan a minimum of 4,330 officers and 42,080 enlisted men can be trained afloat each year.



The Air Force's newest light jet bomber, the Martin XB-51, is designed for short range tactical missions in support of ground forces. The new bomber is powered with three General Electric J-47 turbojet engines, two mounted at the lower sides of the fuselage beneath the cockpit, and a third in the tail. Each engine has a rated take-off thrust of more than 5,200 pounds. The XB-51 is the Air Force's first three-jet bomber. Both wings and tail of the all-metal, mid-wing aircraft are swept back at an angle of 35 degrees, and the horizontal tail surfaces are mounted at the top of the vertical stabilizer. The XB-51 is designed to carry a crew of two, and is equipped with cabin pressurization, air condition, and pilot ejection seats.

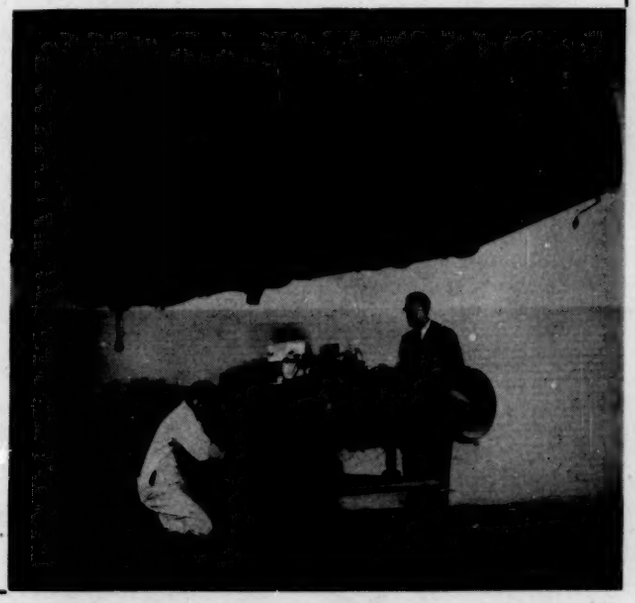
A new hunter-killer destroyer, the USS *Carpenter,* has been added to the Navy's fleet of submarine fighters. Designated the DDK 825, the *Carpenter* is the second ship of the new type to be placed in commission within a period of six weeks. The new destroyer will carry the latest armament and detection devices for fighting snorkel submarines. The 2,400-ton hunter-killer has the same general dimensions as standard destroyers now operating with the fleet. The speed of this new type ship is in excess of 30 knots.

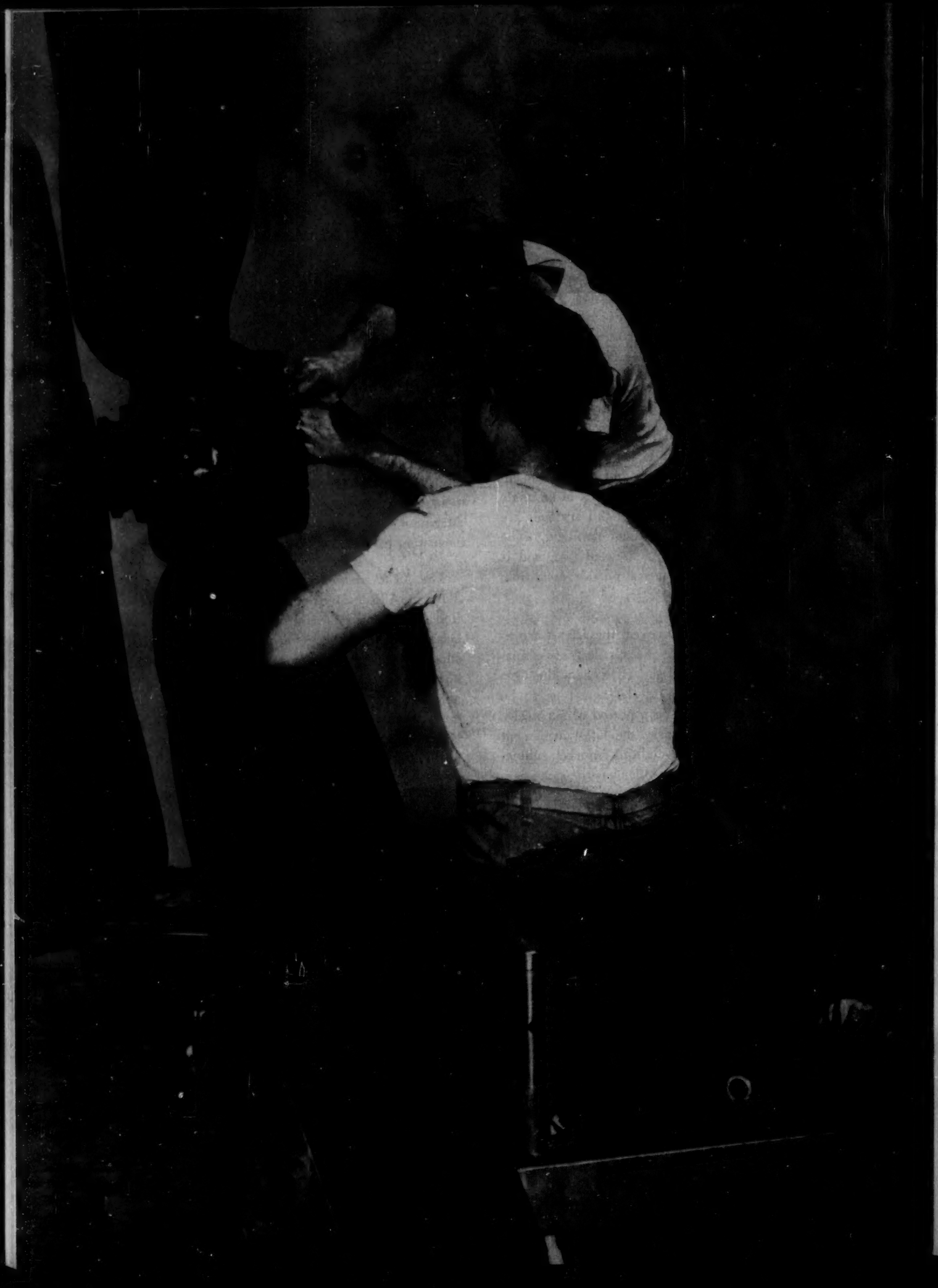
A tow target plane capable of doing 450 mph and reaching an altitude of 35,000 feet has solved the problem of providing gunnery practice for jet fighters according to a recent announcement by the Navy Department. Essentially little more than a steep-winged glider, the Chance Vought-designed craft is all metal and has a span of 24 feet. It will be used for both day and night fighter interceptor practice. The target may be launched by normal drag take-off or by a snatch pickup. A parachute is carried in the tail section of the tow target and is released by a trip in the nose section of the target upon contact with the runway.

Amphibious assault training will be given approximately 15,000 Army troops at Little Creek, Va., by the Navy in preparation for "Operation Portrex" which will begin on 15 February. Troops of the Third Infantry Division (Reinforced) from Fort Benning, Ga., and Fort Devens, Mass., will provide the bulk of the Army's representation in the amphibious exercise at Vieques. They will be supplemented by a battalion combat team of the 82d Airborne Division from Fort Bragg, N. C. The Navy expects to use 150 ships during the operation which will have nearly 80,000 men participating.

The Lawrence H. Flynn Trophy for attendance at annual field training has been awarded to "C" Battery, 2d 155mm Howitzer Battalion, USMCR, of Texarkana, Texas, for attaining a 94.9 percentage during summer encampment in 1949. The trophy, named in honor of a Marine sergeant killed on New Georgia Island, is awarded annually to the USMCR ground unit which has the highest percentage of attendance at summer training camp. Headquarters Marine Corps disclosed that 168 of the unit's 177 men went to camp.

The XT40 turbo-prop engine, developed for the Navy by Allison Division, General Motors Corporation, is the most powerful propeller-type engine ever cleared for flight. The new engine consists of two super-powered gas turbines and is rated at 5500 horsepower. The New Allison turbo-prop will enable any propeller-driven aircraft to fly faster and carry increased pay loads over longer distances and at higher altitudes. Yet, fuel economy comparable to the best present day engines is retained.





MCATS

By Maj Arthur N. Nehf, Jr.

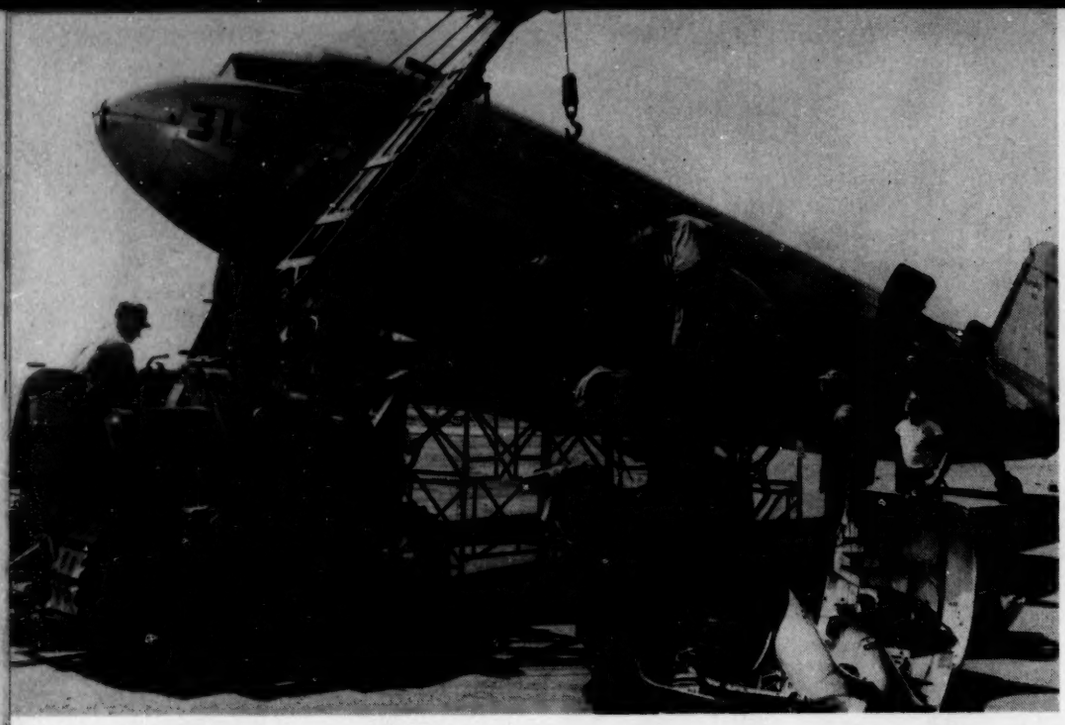
THE WAR YEARS ONLY SERVED TO HEIGHTEN INTEREST in a problem that had been of considerable concern to Marine Aviation for many years: what to do about advanced technical training for enlisted and officer personnel? The consensus of most Marine aviators was that certain aspects of Marine Aviation were peculiar only to that organization and, because of this fact, the Marine Corps needed a special school designed to meet these peculiarities. For in aviation the knowledge of technical equipment is one in which constant schooling, application, and continued interest are necessary in order to stay abreast of current aeronautical developments.

Although the problem was recognized almost universally, the solution was not immediately forthcoming. There were solutions, of course, but they were of a transient nature and were accepted temporarily because of expediency. In fact, it was not until 1946 that the Marine Corps established its own aviation technical school.

Prior to the war there were no facilities at Quantico or on North Island for such a school, and with only approximately 200 officers and 1,500 enlisted men in Marine Aviation, it was not feasible to establish the badly needed school. For one thing, aviation could not afford the required personnel overhead and still meet all of its other commitments.

Prior to the inception of its technical school, Marine Corps Aviation conducted no formal technical instruction under its own control and direction. Basic training was obtained principally by the "on the job" or apprentice system, while advanced technical training was received in Army, Navy, and civilian (aircraft industry) schools. This apprentice system for basic training proved inadequate for the Navy and Marine Corps due to the wartime expansion and the great inflow of personnel having little or no technical aviation background. As a result, trade schools were established by the Navy.

Realizing its own inability to set up the kind of school it wanted initially, because of personnel shortage and



Left: Practical application of instruction is provided students in removing engines from this war-weary Douglas R4D prior to being scrapped.

Below: Students of the MCATS Engineering and Maintenance Course are taught how to set the points and test firing of magneto.

Right: During their five weeks field problem, students are given the task of tuning up the motor of an F7F Tigercat prior to flight.

immediate commitments, Marine Corps Aviation trained its personnel on such quotas as could be obtained from Army technical schools and from Navy post graduate schools. These courses were in no way designed to meet the requirements peculiar to Marine Aviation, but advantage was taken of every opportunity offered in order to further train qualified personnel.

During the war, it was difficult to accomplish satisfactory formal training in more than one specialized field in aviation. A man was a hydraulic man, a power plant mechanic, a propeller expert, etc. — he was qualified only in his own specialty. There was no established school that provided a well rounded education in all of the varied aviation technical fields to qualify a man in field expedients for the job of leading chief, ordnance chief, engineering chief, or supply chief.

MANY MARINES attended the various schools that the Navy established, such as those at NATTC, Memphis; NAS, Jacksonville; Navy Pier, Chicago; NAS, Olathe, and others. Each of these schools had a very fine selection of specialized courses, such as metalsmith, ordnance, power plants, and machinist. None offered an overall course that gave an experienced specialist a chance to acquire knowledge in the entire aviation technical field.

After the cessation of hostilities, space, material, and men became available for the long overdue establishment of a technical school designed to meet the needs of Marine Aviation. Subsequently on 1 January 1946, the Commandant of the Marine Corps directed the establishment of the Marine Corps Aviation Technical School at the Marine Corps Air Station, Quantico, Virginia. The mission of the school was designed to put into effect a course of study that would benefit Marine Aviation during the post war period. In effect it stated that the school was "To promote advanced technical instruction in aviation matters with primary emphasis on field methods." The technical school is giving all students enrolled in the advanced classes the complete well rounded education in their field that is necessary to keep tactical aircraft availability at its maximum level.

ENLISTED graduates of this school are particularly well qualified to fill billets as squadron engineering chief, leading chief, ordnance chief, and supply chief. Not only do aviation units benefit from this over-all ability of their enlisted graduates, but the service as a whole benefits in that it is providing a skeleton organization of specialized men who, during an emergency, can be commissioned and are qualified to take over the various technical billets so necessary during wartime, thus leaving the highly trained pilot free to carry out his primary mission of combat flying. Toward this end of providing qualified personnel, the technical school is doing its utmost to assure the future commanding officer that the men he receives from this school have had experience in field methods.

The best example of the use of field methods is shown in the AIRCRAFT ENGINEERING AND MAINTENANCE Course. This is a nine months course conducted once a year starting in August and having a quota of 25 officers and 20 senior non-commissioned officers. The course offers a carefully integrated schedule of practical work and academic work, including a five-week field problem which is conducted at the end of the course. The subjects given are of necessity varied and broad in scope, but all point to field operations and shortcuts used to maintain aircraft in 100 per cent operational readiness. With jet propulsion coming to the front as the future primary propulsive force for all fighters, it is necessary to assure future commanding officers of graduates that their men are also qualified in this phase as well as in the reciprocating engine phase. Toward this end, a complete syllabus in jet aircraft engines is offered, including theory, fundamentals, disassembly, testing, and trouble shooting on the J-30, J-33, J-34 and J-42 engines.

Instead of specializing in propellers, carburetors, hydraulics, etc., the student receives training in all the specialties that comprise the engineering maintenance field. This field is broken down into three general groups by the new Military Occupational Specialty manual. These groups are (1) engines, (2) airframes, and (3) accessories. Normally during on the job training each enlisted man specializes in one of these three groups. However, upon graduation from this course the enlisted student is qualified in all three groups and receives a primary MOS designation in the group of his choice, and is awarded secondary MOSs in the remaining two groups. Enlisted graduates are qualified as squadron engineering chiefs or for group service squadron billets. Officer graduates are qualified as squadron or group engineering officers, or for duty in the overhaul and repair departments of Marine Corps Air Stations.

STUDENTS do not work entirely on the school's aircraft that are available for disassembly and trouble shooting, but also utilize planes from Aircraft Engineering Squadron 12 based at Quantico and from the Second Marine Air Wing and the Marine Corps Air Station, Cherry Point. During the field problem at the end of the course, the pilot students are required to test fly all aircraft that they have worked on. This fact impresses the students with the importance of doing their jobs thoroughly and accurately. Prior to the test flying of any planes on which they have worked, each pilot is given

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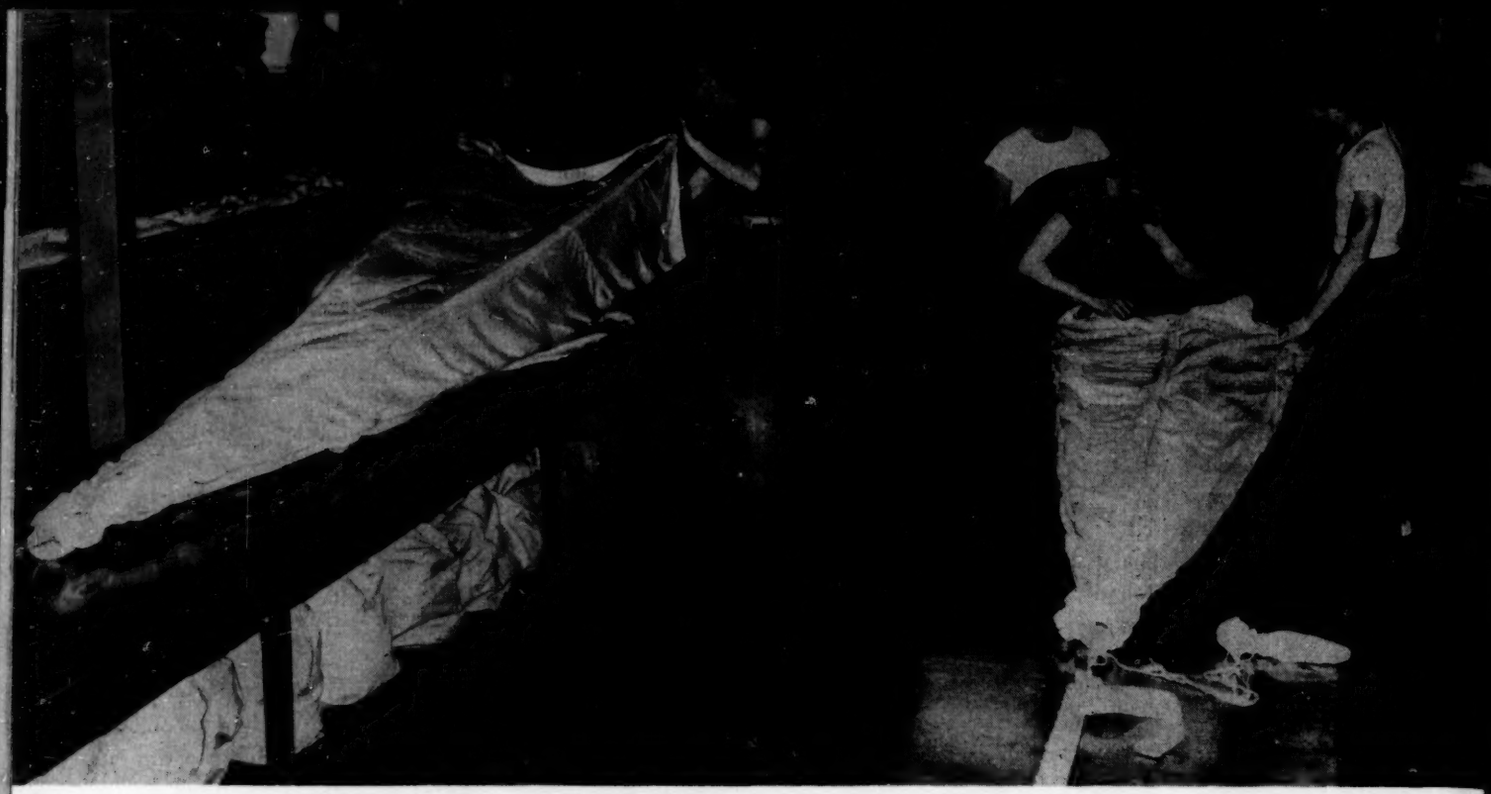
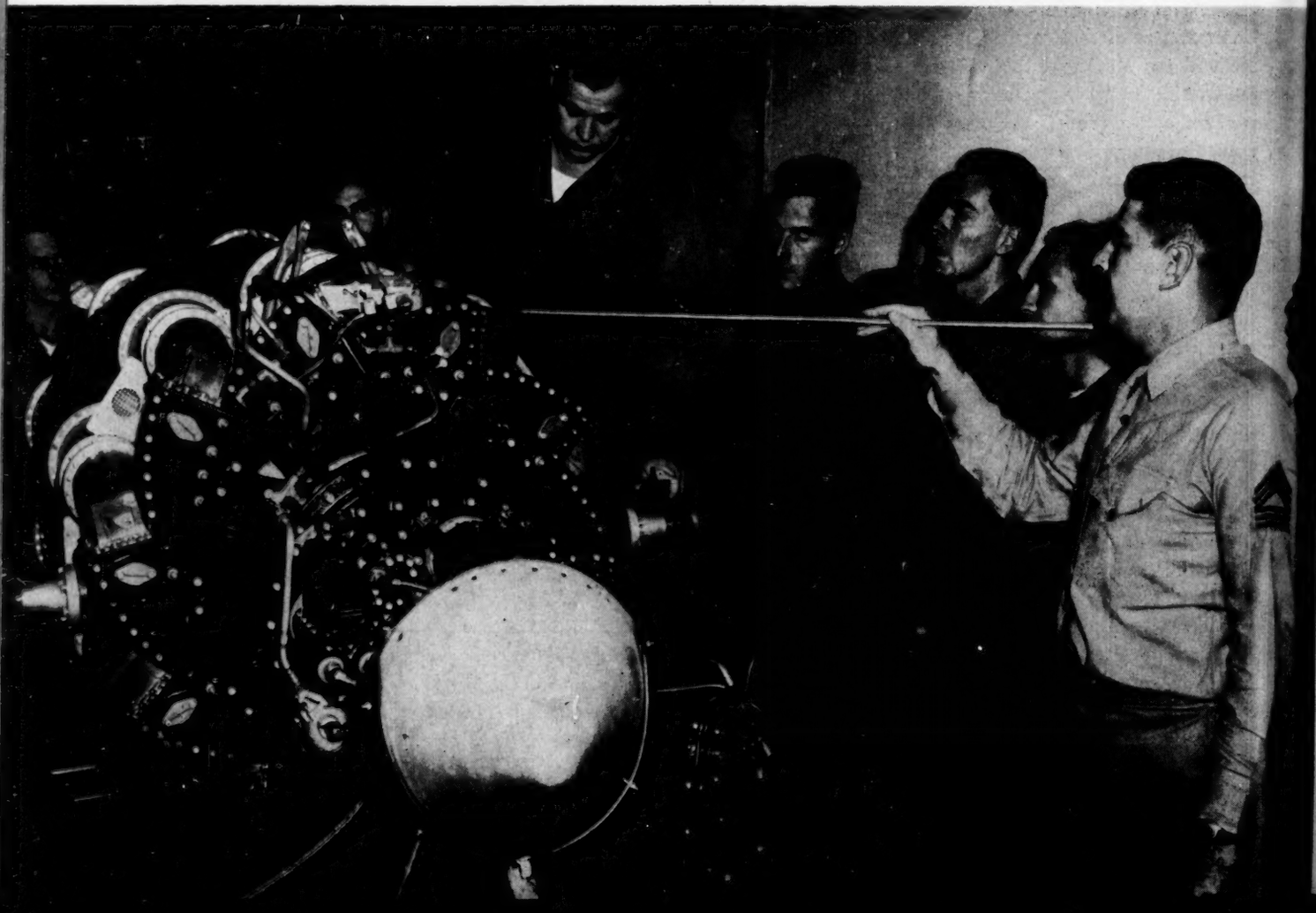
Maj Nehf recently completed a tour as an instructor at the Marine Corps Aviation Technical School and writes from firsthand knowledge. He is now a student at Test Pilots School, Naval Air Test Center, Patuxent River, Md.



Above: Students pack service parachutes under the direct supervision of experienced riggers. Each student must make at least one free fall jump with 'chute he packed. In addition, he must pack at least 110 'chutes before jumping.

Below: An instructor explains installation of GE J-31 in the jet engine test cell. A complete syllabus in jet aircraft engines is offered, including theory, fundamentals, disassembly, testing, and trouble shooting on all type jets.



an extensive course in "production" test flying which is presented by instructors who are graduates of the Test Pilots School, Naval Air Test Center, Patuxent River, Maryland. This course makes the test pilots extremely critical of any discrepancies in the plane, and greatly aids in accurately diagnosing the cause of these troubles.

Another nine-month course stressing field methods is that in AVIATION ORDNANCE. This course also commences in August and has a quota of 15 officers and 15 experienced noncommissioned officers. Here again the practical work and academic work are balanced and the course is topped off by a five-week field problem held in conjunction with the engineering students.

Included in the syllabus is instruction in small arms, elementary electricity, munitions, MK-23 gunsight, pyrotechnics, toss bomb sights, tow targets, electronics and fire control systems. The students receive instruction on new techniques and procedures of bomb loading and handling, including the loading of 5" HVARs and Tiny Tim rockets for actual firing runs. All ordnance pilot students must actually load and fire all ordnance equipment that can be carried on the F4U-4 *Corsair*. These firing runs are made similar to those of any operational fighter squadron within the Marine Corps.

The author feels that this phase, wherein pilots actually load, fly, and fire all ordnance equipment available, is unique in its ability to train officer pilots and NAPs in the importance of proper handling of ordnance equipment and in the loading and maintenance shortcuts so important to a tactical squadron during combat. Here again the student's future commanding officer is assured of a highly trained pilot who can both maintain and fire all ordnance material that is organic to his squadron. Along these same lines he is available upon reporting to instruct other pilots and noncommissioned officers in the intricacies of aviation ordnance.

WITH guided missiles taking their place as weapons of the future, the school offers an extremely detailed course on all available classified missiles that would be available to Marine Aviation in an emergency. Here again the school is looking ahead and attempting to assure the Corps of a group of well trained men, schooled in the basic information needed for the conduct of a guided missiles program.

Enlisted graduates of this ordnance course are qualified for positions as squadron ordnance chiefs or for group ordnance billets. Officer graduates are qualified as squadron or group ordnance officers.

Twice a year, a 16-week course in MARINE AVIATION SUPPLY is offered. One class is designed to train 15 enlisted personnel with little or no background in supply, while the second course is designed to accommodate five officers and 10 senior noncommissioned officers who have had experience in the supply field, and give them a well rounded course in current supply procedures and trends.

The syllabus for each course is fundamentally the same differing only in the level of instruction. Classes are conducted in organization and administration of Marine Supply, material identification, classification and allowances, stock records and inventory control, custody, stowage, preservation and shipment, accounts and reports, and camp construction and maintenance.

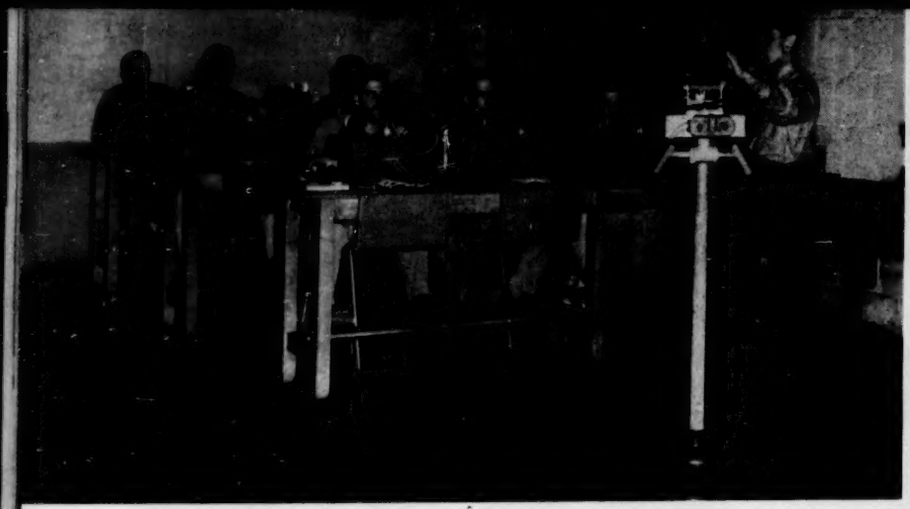
Enlisted graduates of this advanced course are qualified for positions as squadron material chiefs or with the Marine Air Group supply sections; the graduates of the "basic" class are qualified to work in their specialty field of aviation supply and advance in this field as promotions become available. Officer graduates are qualified for positions as squadron material officer or as Marine air group logistics officers.

The mission of the Marine Corps Aviation Technical School is to provide basic and advanced instruction in aviation matters, with primary emphasis on field methods. The school is accomplishing this mission by giving its students a well-rounded technical education

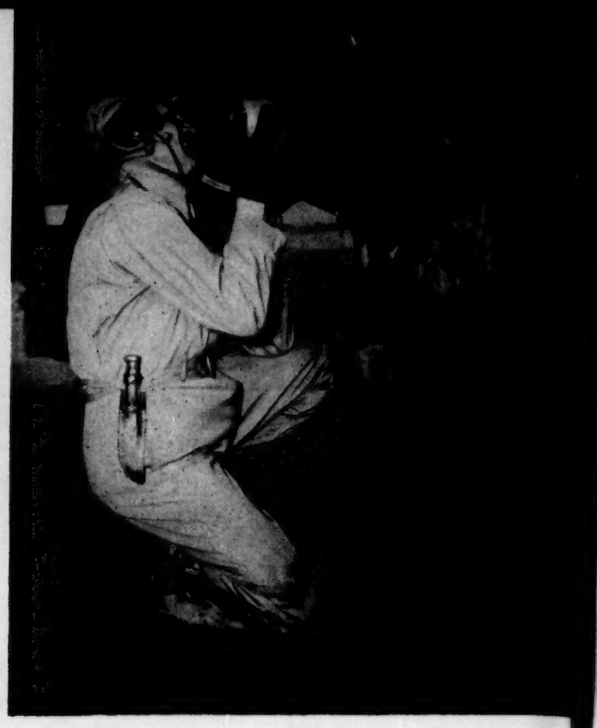
THE ONLY course offered at the school that does not have officers enrolled as students is the FLIGHT EQUIPMENT Course. This is a 22-week course offered twice yearly. The quota for each course is 28 enlisted personnel, all without previous experience. Five students in each class are assigned by the Second Marine Division at Camp Lejeune to be trained for future duty with aerial delivery platoons upon graduation. All students receive instruction in packing all types of parachutes, repair and service of life rafts, "mae wests," oxygen and CO_2 systems, aircraft fabric repairs, air cargo drops, and camp construction and maintenance. They even learn about weight and balance of aircraft and why it is so important to get the aircraft cargo stowed properly so that it can be dropped via parachute to ground troops. The students are also taught how to instruct pilots and squadron personnel in the care and use of flight equipment.

As required by the Navy, each student must make at least one free fall jump from an aircraft in a parachute which he has packed. Prior to this jump, each student must accurately pack a minimum of 110 chutes under the watchful eye of experienced instructors.

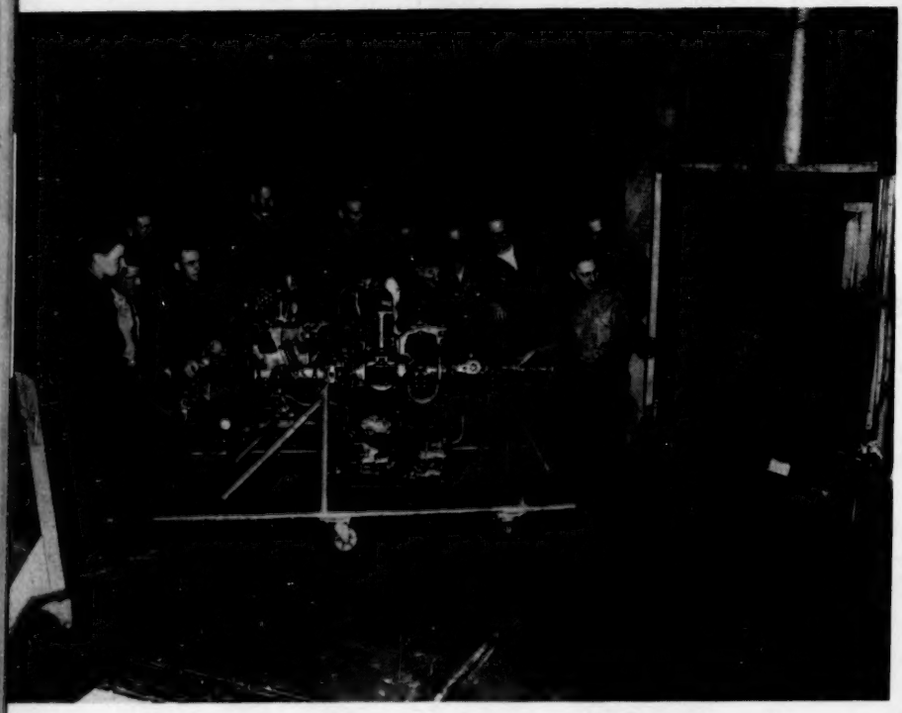
Upon graduation from the flight equipment course, the student is a qualified parachute rigger and will normally fill a billet as a squadron, group, or air station parachute rigger; or he may be sent to one of the aerial delivery



Above: Ordnance Course students are required to master the intricacies of a plane's fire control system.



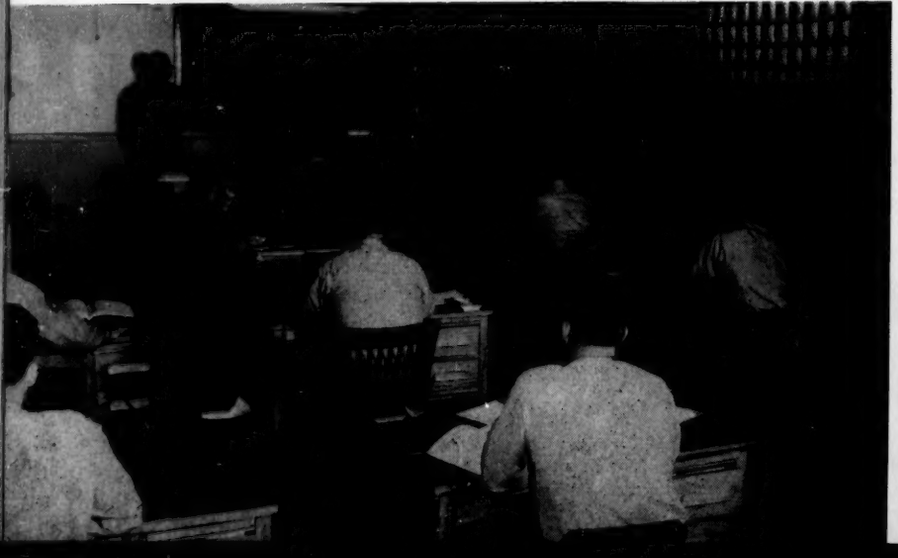
Above: Ordnance pilot-students load a 100 lb water-filled bomb prior to flight during problem.

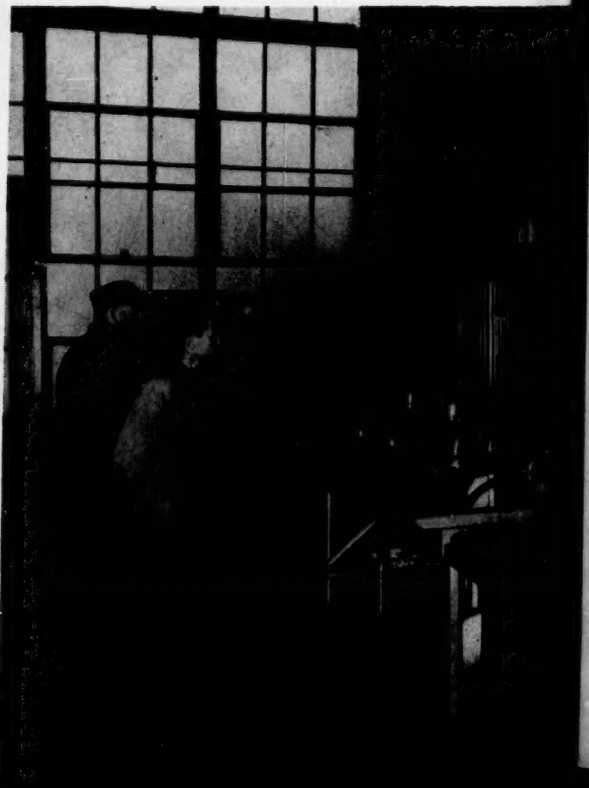


Left: An instructor explains the lubricating system of the Pratt and Whitney 2800 engine to the Engineering and Maintenance students.

Below: Instruction in the operation of a carburetor flow bench is provided. Practical application follows.

Below: Aviation Supply Course students receive information on the organization of the Naval Establishment during their 16 weeks of study.





platoons employed with the Marine Corps ground forces.

By far the most interesting phase of instruction offered at the school is the five-week field problem conducted for the engineering and ordnance students at the completion of their scheduled classes. This problem is of great importance and practical value to the students in that it actually allows the students to operate under field conditions on operational aircraft the same as they will be required to do after graduation, and yet still be under the watchful eye of experienced instructors.

This field problem is so constructed as to simulate the setting up and operation of a Marine service squadron in the field, with only that equipment which is organic according to the Table of Basic Allowances. The students, both officer and enlisted, take part in the construction of the camp, setting up the various shops that are necessary to carry out their work, providing water supply, sanitation, and installation of a portable 35 KVA generator required to supply electric power for the entire camp during the problem. The field problem is conducted on the remote side of the air station, with the camp proper located on the Potomac River.

EVERY ATTEMPT is made to construct and operate the camp so as to closely simulate actual field operations. During this problem, the staff instructors act as advisers only when so requested by the student. Unless advice is requested of the instructor, the student is allowed to complete his work in the manner in which he feels it should be accomplished. Upon completion of the project, whether it is a job of cleaning spark plugs, changing an engine, or repairing the fabric on a plane, it is thoroughly checked by one of the school's instructors prior to the aircraft being sent up on its test hop.

This method of student and staff instructor employment is ideal, since it allows the student a free hand in diagnosing troubles and repairing them in the manner he feels it should be done. Of course, some mistakes are made, but it is quite certain that a mistake in the field problem will not be repeated in an operating squadron at some later date.

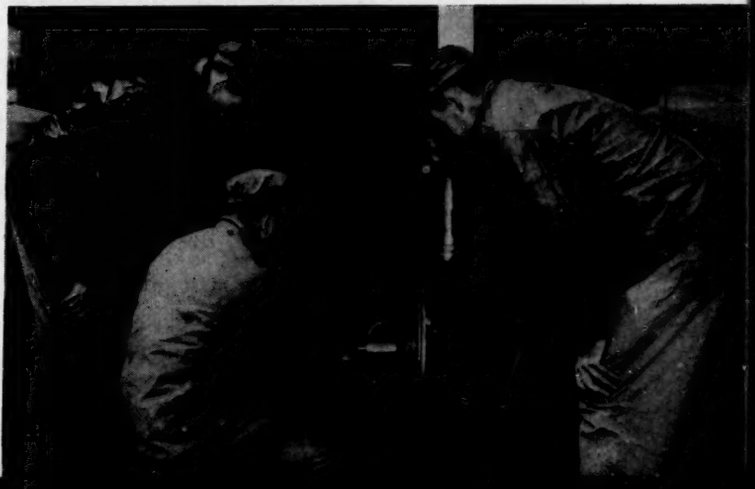
The entire academic course is so designed to point towards this field problem during the final phase of the school year. It is felt that as a teaching method it is unequaled in any armed forces aviation technical school.

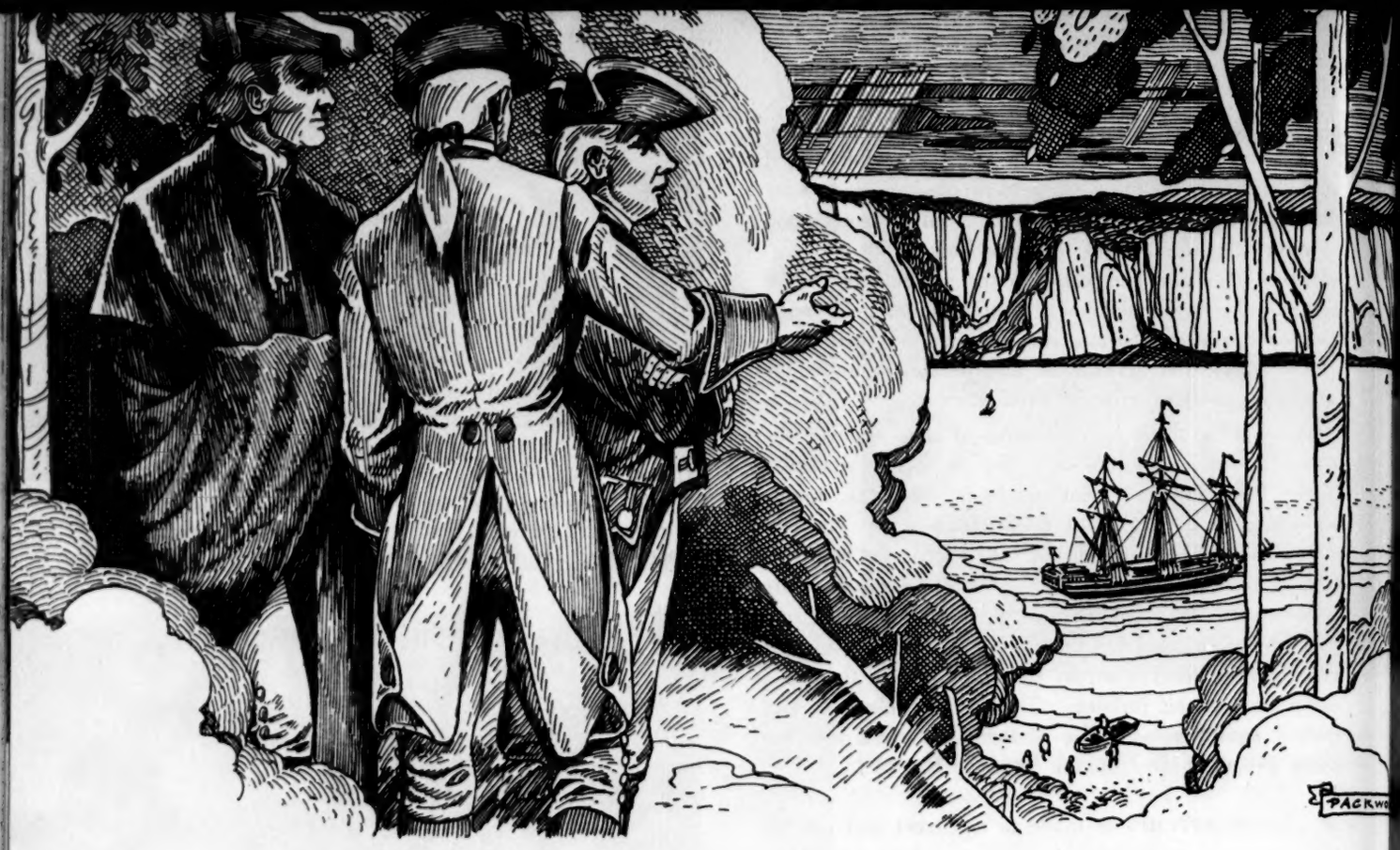
A revision of all courses is constantly under way in order that each course offered is up to date and that the information passed out during each course can be used by graduates when they are employed in the field, whether it be a simulated maneuver or actual combat. Only in this manner can Marine Aviation keep its highly technical equipment constantly available as a supporting weapon to the ground forces in their amphibious role.

US MC

Above: **Students check turbine tip clearance of a J-34 Westinghouse jet engine.** ***Below:*** **Installing a propeller during field problem gives students opportunity to practice what they have learned.**

Below: **The disc type brake as used by the Chance Vought *Corsair*, the Corps' old war horse, is explained to Engineering and Maintenance students.**





The Secret of Quebec

By Frank Edwards

HISTORY HAS FORGOTTEN TO RECORD AN IMPORTANT fact about the capture of Quebec in 1759. It was vital information supplied to Gen Wolfe by Capt Robert Stobo of the Virginia Volunteers which made possible a British victory in one of the decisive battles of all time.

Gen James Wolfe commanded a small, hand-picked army. His 8500 British Regulars were well equipped. They were led by first class officers, seasoned on the battlefields of Europe. Including crews of the transports, total British personnel was 36,000 men. The French were without any naval support. Their army held a natural stronghold on the rocky heights of Quebec. French guns, if well disposed, could command every possible approach. Montcalm's 4000 French Regulars were supported by 8000 colonials and assisted by the dreaded Indians.

Summer was closing. Already, the British before Quebec had taken three bad beatings; Wolfe dared not risk another.

A full quarter of all the British Navy then afloat was there; 277 vessels including 49 men-o'-war. Adm Saunders' ships and Wolfe's compact and tremendously effective army were beautifully coordinated, and yet, with winter near, the basic problem was still unsolved; the army had to be landed successfully where they could engage the French in a pitched battle, 18th Century European style. Such a fight could have only one outcome, a British victory. Otherwise, Wolfe would have to retire for the winter, leaving the French still in control, which would be the equivalent of an English failure.

In the history books, there is no satisfactory explanation given as to how Gen Wolfe learned about the pathway (le sentier du Foulon) that led from the beach (Wolfe's Cove, Anse au Foulon) to the plains where the battle was fought (Plains of Abraham). But there is a story they tell, deep in the heart of French Canada, about a certain Capt Robert Stobo, who brought the vital

The GAZETTE *wishes to thank The Ryerson Press, Toronto, Canada, and Mr C. W. Jeffreys, RCA, LLD, for granting permission to the* GAZETTE *to base its illustrations for THE SECRET OF QUEBEC on the drawings of Mr Jeffreys which appear in his book THE PICTURE GALLERY OF CANADIAN HISTORY, Vol 1, now in its fifth edition.*

Known to many Quebec lovers, the pathway from l'Anse au Foulon to the Plains of Abraham was a dangerous avenue leading into Montcalm's position. Capt Robert Stobo of the Virginia Volunteers learned of it and helped Wolfe win his battle

information to the British.

There are many who do not believe that such a man as Robert Stobo ever lived, but bits of information about this colorful personality have been left around gathering dust in the archives and elsewhere for 200 years. The writer has already spent over two years gathering together and correlating the evidence.

Capt Robert Stobo was real, not fictional. He had been a prisoner of the French for five years, had escaped three times, the last time successfully. From his free movements while on parole, he knew every foot of Quebec and its approaches.

Stobo was fully the master of the French language; he knew the personalities of the French leaders; apparently, he knew their plans. Most important, Capt Stobo knew the weaknesses of the French situation. His information, presented to Gen Wolfe at the right time, certainly put the British commander in possession of the one and only plan of attack by which he could hope to secure his pitched battle, the winning of which would mean success for the entire campaign.

The probable French origin of this plan, as well as its inherent soundness, is shown by the French success six months after Wolfe's victory. Lévis (who succeeded Montcalm) repeated the entire operation against Murray (who followed Wolfe in the British command) and on the same battlefield beat the British soundly; they were saved only by the dramatic reappearance of British naval forces.

The story of the capture of Quebec can stand retelling in view of Capt Stobo's part in it.

The figure of Captain Robert Stobo strides like a phantom through the historical mists from the prelude to the Seven Years War to the Capture of Quebec, which resulted in the close of the French regime in North America.

BEFORE THE American War of Independence, most of the intercolonial fighting was secondary to war in Europe. The Seven Years War reversed that tradition. The spark was put to the gunpowder in Ohio; war spread from America to Europe. Throughout this period, there were overlapping colonial claims, complicated by maps that ranged from poor to bad. This was particularly true in the case of "The New Interior Country," the Ohio Territory. In 1749, the French sent out a party under Celeron de Blainville to consolidate their claims to Ohio in all their usual ways. They planted the French flag, buried lead plates inscribed with their claims, and established missions.

The French set up trading posts for the collection of furs from the Indians, for which they paid with French brandy and firearms.

Meantime, Gov Dinwiddie of Virginia, a man of great capacity and whose vision took in many things beyond the borders of his home state, was well aware of the worth of the Ohio Territory. Following a survey of the parts of Ohio claimed by Virginia, Gov Dinwiddie sent George Washington on a mission to the French, to tell them they were over-running British lands. The selection of George Washington was quite natural; not only had he the required skill in negotiating a severe assignment like this, but his background as a surveyor enabled him to do his best with the very inadequate maps available.

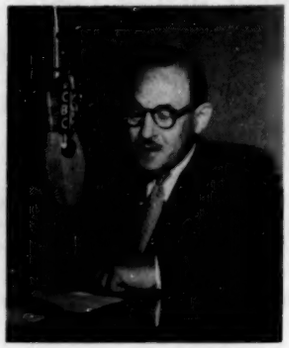
Washington's mission failed. The French maintained that their claims were the better. Having already set up forts at the point-of-dispute, they were in a fine position for successful argument.

Already they had Fort Presqu'île on Lake Erie, Fort LeBœuf farther south, and beyond that an outpost at Venango. They now built Fort Duquesne where Pittsburgh stands today, at the strategic point where the Allegheny and the Monongahela join.

English traders went into Ohio nonetheless, and offered the Indians, in exchange for their furs, English rum in competition with French brandy. The brandy might have been of better quality but the rum was cheaper.

SUPPORTING their land claims and backing up their traders, the English built a makeshift sort of fort, calling it, aptly enough, Fort Necessity. It might have served to impress the Indians — for control of the Indians was a major factor in this dispute. Though debauched by the firewater of the paleface and involved automatically in his wars, the Indian was still the man who brought in the furs. He was a powerful ally, a terrible foe.

At this juncture, in the summer of 1754, Gov Dinwiddie sent George Washington, then a major of the Virginia Volunteers, to strike at Fort Duquesne in an effort to drive the French out of Ohio. With Maj Washington was Capt Stobo, who had received his commission through the Governor. Stobo was 27 at the time, recently arrived in Virginia from Scotland. He came of a good family with soldierly traditions, though not much money, and apparently he had been mixed up, perhaps indirectly,



Frank Edwards is a native Montrealer. In Canada his radio scripts in both French and English are well known and his voice is a familiar one to Canadian radio listeners. Recently, through the International Service of the Canadian Broadcasting Corporation (similar to Voice of America), his work has been beamed around the world in a dozen languages. In 1948, Frank Edwards wrote and narrated a series of historical pieces called Stories of Today and Yesterday *which received international recognition in program competitions at Ohio State University and at Toronto, Canada. He was educated in the Montreal Public Schools, at Mt Allison Academy, and at McGill University.* The Secret of Quebec *is Mr. Edwards' first contribution to the* GAZETTE.

in the ill-starred career of Bonnie Prince Charlie. By all accounts he was a handsome daredevil, a man of the most charming manners (which he used with drastic effect on the ladies). To these gifts which he was destined to use in the service of his country must be added a fine mind, a well-modulated voice that gave the impression he was speaking for one listener only, and beyond everything, a surpassing nerve. If ever a man was made to order for the part he was to play in his dramatic lifetime, such was Capt Robert Stobo of the Virginia Volunteers.

The expedition sent to drive the French from Ohio was "to repel force with force." However, they hardly gave Washington enough strength to do very much "forcing." French troops in superior numbers, led by de Jumonville de Villiers were encountered near Ft Duquesne, and after a brief but very significant skirmish, George Washington was forced to retire to the feeble protection of Ft Necessity.

The foregoing skirmish was significant in that there was some unexplainable shooting at a French party that was advancing for a parley under a flag of truce. De Jumonville, the French commander, and several of his officers were killed, while an officer, two cadets, and several regular soldiers were made prisoner by the English.

THE FRENCH regarded this unfortunate occurrence as deliberate murder. Coulon de Villiers, brother of the dead de Jumonville, attacked Washington in Ft Necessity, forcing a capitulation on July 3rd, 1754. Though the terms were harsh, Coulon de Villiers took no personal vengeance on the future President of the United States.

Article 7 of the capitulation agreement follows. Capt Robert Stobo's name appears, as well as that of his fellow-officer, Capt Jacob Van Braam. The agreement, written in medieval French with a quill pen, and with many curiously misspelled words, will be good for a smile in the case of anyone with a command of the modern French language.

"Que comme les anglois ont en leur pouvoir un officier deux cadets et generalement les prisonniers qu'ils nous ont faits dans l'asassinat du S^r de Jumonville et qu'ils prometent de les renvoyer avec sauvegarde jusque au fort Duquesne situé sur la belle Rivière, et que pour sureté de cet article ainsi que de ce traité Mrs Jacob Vanebrame et Robert Stobo — tous deux capitaines nous seront remis en ôtage jusqua l'arrivez de nos canadiens et françois cy-dessus mentionés, nous nous obligeons de notre coté a donner escorte pour ramener en sureté les deux officiers qui nous prometent nos françois dans deux mois et demi pour le plus tard."

Briefly, the terms required complete withdrawal of the English behind the Alleghenies. Washington's 500 men taken at Ft Necessity were released. Captains Stobo and Van Braam were given as hostages to guarantee the keeping of the terms, which included returning the prisoners taken when de Jumonville was killed. Everything was to be completed in not more than two and a half months, and then Stobo and Van Braam were to be returned to the English.

IT IS IMPORTANT to note that the British Government later repudiated the agreement, and that even after the return of the Frenchmen had been accomplished, the hostages were still held. This was later to have a bearing when Stobo was tried on charges of violating the terms of his parole and engaging in espionage. The two and a half months provision was disregarded; Stobo and Van Braam were taken to Ft Duquesne to start what proved to be five years of imprisonment.

For the French in Ohio, July 3rd, 1754 was a date of glory. For a short time following the capitulation of Ft Necessity, the flag of France flew unchallenged throughout the whole of the Valley of the Mississippi.

The year 1755 saw a fresh four way attack by the English on the frontiers of New France. Gen Braddock, newly arrived in America, moved on Ft Duquesne, where Stobo and Van Braam were now on parole. At the same time, Gov Shirley struck at Niagara, and Sir William Johnson attacked Crown Point, and Monckton went after Beauséjour, the French strongpoint in Acadia.

"Braddock's Defeat" is a school-history classic. Disregarding the sound advice of such "colonials" as George Washington and Benjamin Franklin, he worked his way into a neat trap in the woods. A miniature force of 70 French regulars, 130 French Canadians, and 600 Indians destroyed Braddock's 1200 regulars plus a few hundred

American troops. Braddock was killed. Of his 86 officers, 63 were killed or wounded. The English troops fled in disorder.

ON GEN BRADDOCK'S person and with his effects were found maps of the fortifications at Ft Duquesne, and letters reporting the strength of the French troops there, the number and placement of the guns, and how the position might most easily be approached. These were the work of Capt Robert Stobo, written by him personally, and signed. He never denied having made those maps and reports.

This nervy work he had done while enjoying the freedom of Ft Duquesne on parole. He was able to move freely through the whole establishment, and his keen eyes missed nothing. As an indication of the "amenities of war" 200 years ago, he also moved in the best social circles of the community, an "officer-guest" of the French officers and their families. At least one friendship Stobo made here had an effect years later, at the capture of Quebec.

It isn't known exactly how Stobo managed to send his information to Gov Dinwiddie of Virginia, who turned it over to the unfortunate Braddock. Probably bribery was involved; it was a favorite device in those days. However, the discovery of those reports after Braddock's defeat came as quite a shock to the French. Stobo was locked up at once. He and his Colonial-Dutch comrade, Capt Jacob Van Braam, were sent to Quebec to appear before Gov de Vaudreuil for trial on charges of espionage. They arrived in Quebec in 1756. At once, knowing that the trial would very likely go against them, they began plans for escape.

Capt Stobo spoke French faultlessly. He made friends with his jailers, speaking to them in their own language, taking a personal interest in the things that concerned them. They were used to being treated with callous indifference by their own officers. Consequently, they thought Stobo a very fine fellow indeed, and eased up on their vigilance. One day Stobo and Van Braam escaped.

After a few days of freedom they were both caught at St Nicholas, "6 or 7 leagues above Lévis."

A cash reward had been offered for the recapture of the men; it was 6000 livres, the old livre being the equivalent of the modern French franc. Considering the eventual importance of at least one of the prisoners, the size of the reward seems extremely modest.

FROM THE TIME of their recapture till the trial on November 28th, 1756, Stobo and Van Braam were closely confined in the common prison. By careful research of ancient books and documents, and with the personal searching by Maj Georges Guimond, the curator of the Military Museum at La Citadelle, Quebec City, the last standing wall of the gloomy place where these men were

Pierre Rigaud Marquis de Vaudreil — the last governor of New France.

confined has been located. It is near the former Palace of the Intendant, which is now the site of a brewery. The remains of the wall of the prison are to be found at the rear of a grocery store at the corner of St Paul and St Nicholas Streets.

A full report of the trial before Gov de Vaudreuil appears in the "Rapport de l'Archiviste de la Province de Québec pour 1922-1923." It is also available in the Canadian Federal Archives. Briefly, Stobo's defense was based on the repudiation by the British of the capitulation agreement given by George Washington at Ft Necessity. Thus, his status changed from that of hostage to ordinary prisoner of war, free to work for his own side and against his enemy. Again, he was to have been exchanged within two and a half months, but he was still being held, and the time was running into years. He had repeatedly asked for such an exchange. He also stated he was held in confinement in conditions unfit for an officer and a gentleman. Finally, he absolved his comrade, Van Braam, who was found not guilty by the court.

They found Stobo guilty; he was condemned to execution as a spy — to be beheaded (la tête tranchée). He never suffered that fate!

Court procedure called for sending a report of the trial and the findings of the court to the King of France. There had to be a confirmation of the sentence before the execution. The King of France refused to confirm, and Stobo stayed in his rather terrible early Canadian prison.

THE BEHAVIOUR and appearance of Capt Robert Stobo at his trial excited much sympathy for his predicament among the ladies of the best social circles of the town. As a result of their appeals on his behalf, Stobo and his companion in prison had their conditions eased somewhat. They were moved from the common jail to a small adjacent building. They now had exercise, consisting of being marched through the streets with their arms bound, the objects of public ridicule. Stobo's manly courage never deserted him, and his thin and ill appearance once more had the effect of creating sympathy for him. Again the ladies made an appeal to the Governor on his behalf.

One of these ladies who spoke to the vain and foolish de Vaudreuil was a cousin of his and the wife of a high-ranking French officer. She is reported to have told him,

"Cousin, undoubtedly our good Canadian Courts are right in condemning this haughty prisoner to forfeit his life to our Grand Monarch, whose goodwill assures the peace of the world, whose victories, the world empire . . . etc.," while the appeal ended with the argument that if the prisoner, who after all, was a fine gentleman and a brave officer, should die of neglect, the Governor would never be able to explain the matter to the King of France. Apparently she already knew that the death sentence had not been confirmed. Quite obviously she had fallen in love with Robert Stobo. Though tired and sad, pale and ill from his long and dreadful imprisonment, now, with his hair turning white, he seemed more attractive than ever to the ladies; indeed, there were such ladies; there always had been.

Stobo never named his fair protectress, though the following appears in a book of his reputed memoirs printed in Pittsburg about 85 years after his death, these memoirs in turn based upon English documents thought to be authentic:

"There dwelt, by lucky fate, in this strong capital, a lady fair of chaste renown, of manners sweet and gentle soul; long had her heart confessed for this poor prisoner, a flame best suited with the spirit of the times to smother." There were many fair ladies at De Vaudreuil's court, and at the palace of the scoundrelly Intendant François Bigot, yet none of them had exactly distinguished themselves for the quality of chastity.

The lady's identity is known to this writer; it will not be revealed. Descendants of this family still live in Quebec City, and French-Canadians are a proud and sensitive people.

THE CONDITIONS under which the two captains were confined in the small building next to the common prison were very much better following the intervention of Stobo's protectress. The men had decent food brought in from outside, even brandy and good wines. Gradually their health improved. They now had visitors, books, tools for the making of handicraft items like toys for the children of their jailers. And throughout the winter of 1756-57 they made plans for escaping in the spring, when the snow would be gone from the land, and the St. Lawrence would be open, and the weather warm so that they might live off the land and sleep in the open without hardship. Meantime, little by little, the jailers relaxed their vigilance; perhaps they were inclined to do so because they knew that these men, especially Stobo, had special protection in very high quarters. Again, there may have been bribery.

The second escape occurred during the night of May 1st to May 2nd, 1757, during a violent storm. Crashing thunder and a downpour of rain sent the two men guarding the prisoners from their post outside their door to the main prison building for shelter. From records available of the investigation the following morning by François Daine, the King's Councillor, it is clear what happened. This investigation has some surprising turns, all well-documented.

The two men just walked out the door, which had been left open by the careless guards. Perhaps that carelessness was bought for a price in gold. They walked across the yard, out the gate, down la rue des Pauvres (now called Palace Hill) to the water front. They swam or forded the little St Charles River, then hid in the woods all the next day. The reward of 6000 livres was posted again, and the men were caught by a French patrol at a point near Montmorency Falls. They were returned to their prison quite unharmed.

A COMPLETE record of the verbal inquiry held by François Daine on May 2nd, 1757 appears in the "Bulletin des Recherches Historiques" published at Lévis, Quebec, in 1908, by Pierre-Georges Roy. Daine went to the prison with the clerk of the court, and the procurer, and the bailiff. They questioned the jailer, Charles Vancour dit Montigny, two locksmiths named Legris and Maclure, a trader named Duflos who had furnished food and other things for the prisoners, and several servant girls who had brought them meals, brandy, etc. None of the girls and few of the men who had been jailed at

the orders of the Intendant Bigot could sign their names. But in the historic records published in this book, it appears that only these humble folk were troubled; there was no inquiry made among those on any higher level. Had there been, some strange circumstances might have come to light. There is a complete inventory, pages of it, listing all the things left behind by the escapees.

The list of articles of clothing is meticulously complete. It is striking how people who were not able to lock a prison door could turn out such a marvelous inventory. The costume of the officer of two centuries ago must have been extensive; even such things as beaver hats are listed. There were books on many subjects in several languages, the equivalent of a university education. The decorations listed include religious pictures. Finally, and most significantly, there was an expensive and elaborate belt-buckle, which was returned to the Intendant Bigot, as were a number of tools which seem to have come from his house. Other property was handed over to the jailer, Montigny, for safekeeping.

At this point official records once again become rather sketchy. It appears that the two men were returned to the same building outside the main prison after they were recaptured, and looked after by the same lot of guards who had been charged with their care before their escape.

And now we lose all trace of Capt Jacob Van Braam. Whether he died of neglect in prison, or was finally exchanged, or had to wait for the capture of Quebec by the English for his release is not recorded anywhere.

Capt Stobo was released in custody of his protectress after a short stay in his cell. During two years of protective parole he wandered the streets of Quebec, his keen eyes and mind seeing and hearing everything. When his third attempt at escape was successful, Quebec had no secrets

CAPT STOBO'S career, however, is clearly seen, the thread of it running all through the pattern of the events which followed. After a short period in his cell, he was paroled to the personal care of his protectress, though two soldiers were posted to the duty of guarding him as a matter of form. Under these luxurious and enviable conditions, Capt Stobo now spent two years. He was able to move freely through the fortifications, talk with French officers and their families, see everything, hear everything. The streets of Quebec became familiar as the palm of his fair lady's hand. Frequent walks on fine evenings with her made the winding pathway under the trees at the top of "le sentier du Foulon" a location whose military value he was bound to appreciate.

Le sentier du Foulon is still the only natural path from the waterfront to the Plains of Abraham. At the bottom, it is steep and rocky, though the spring that used to supply it with a sparkling stream of water has now dried up. Farther up, the pathway traverses back and forth under the trees to this day, and sweethearts use it now as they did in closing days of the French regime.

There are some who think Stobo used this pathway when making his final and successful escape early in May of 1759. Probability is against that. It is more likely the nervy Capt Stobo would take a less arduous way out, merely walking past the guards, all of whom knew him, straight down to the waterfront of Lower Town.

Stobo's final escape was well arranged, and very likely had considerable help from his protectress. There were five of them who got away together in a birch canoe.

With Capt Stobo was a Lt Stevenson, an officer of Rogers' Rangers; and a Scot named Clark. There were two former colonial soldiers (referred to by the French as "bostonnais") to complete the party. They had food and firearms.

THE ESCAPE down the river and to Halifax was a five-week adventure saga, for the French ships and outposts had to be gotten past for hundreds of miles before they could hope to find themselves among friends. Arriving at one of the parishes of the lower river, they encountered the Chevalier de la Durantaye, the Seigneur de Kamouraska, a well-known local personage. He and his boat and his crew were made to serve the English much against their will; they had to conduct the escaping British past French ships of war and military outposts on the shore. It is worthy of note that when Stobo freed de la Durantaye from this task, he gave him provisions for his return home, and paid for the cargo he had forced him to throw overboard.

They arrived at the British stronghold after Wolfe's departure for Quebec. Stevenson left to rejoin Rogers. Clark and Stobo set out to join up with Wolfe, and managed safely to do so.

Though there are some who think that it was Stobo who served to pilot the British expedition up the St Lawrence, this is not correct. Adm Saunders must have realized the risks involved in navigating the river, where even the French ships used to employ local pilots on every trip. He got around this problem at the island of Bic, where they took Charles the Seigneur de Vitre, born in the neighborhood, who knew the river thoroughly from childhood. It was this man who piloted the British fleet to Quebec, which is why their passage up the river was like sailing at a regatta, a thing of beauty and precision, with no mishaps to mar it.

The harbor at Bic was familiar to early Frenchmen.

Gen James Wolfe won his battle but lost his life.

The famous 17th century French engineer, Vauban, and Gov d'Avougour made plans to fortify Bic for the defense of New France. It was never done.

The name of Capt Robert Stobo is linked with Generals Wolfe and Murray in the account of the incident at Pointe-aux Trembles on July 21st, 1759. This particular Point-aux-Trembles is not the well known suburb of Montreal; it is 22 miles west of Quebec City.

Some 1200 British arrived at Point-aux-Trembles, and were shot at by 40 Indians. The British returned the fire and the Indians hastily left. On landing, some 13 people were found who had taken refuge there from besieged Quebec City, only to be attacked by the Indians. The British were looked on by these people, not as enemies, but more like rescuers. In the *Relations de Jean Claude Panet* their names are listed; some of them were friends of Capt Stobo; one of them was his protectress.

These ladies and gentlemen were returned to their compatriots at 3:00 PM the following afternoon, July 22nd, 1759.

A PARLEY had been held at nine o'clock the same morning, at which the British agreed to return their distinguished prisoners, while the French agreed to allow free passage downstream for a boatload of sick and wounded British. The French people were landed at l'Anse des Mères, and all cannon-fire withheld till 9:00 that evening to allow everybody to get home safely, after which the war went on again, leaving this pleasant little interlude to perfume the pages of history.

The pace of the struggle now intensified and quickened; the campaign was nearing a showdown.

The French were fortunate in having Gen Montcalm as their leader. Louis Joseph Marquis de Montcalm-Gozon came of a long line of fine soldiers; more than that, his own work bears the mark of genius. Can you name any other general who ever beat British forces on four different battlefields in four successive years? He was the victor at Oswego in 1756, Ft William Henry in 1757, Ticonderoga in 1758, and Montmorency in 1759.

At every step, Montcalm was handicapped by the foolish Gov de Vaudreuil, while the Intendant, François Bigot, was an utter knave. Bigot robbed the King's Treasury of the pay for the army, he commandeered manpower for his trading company when it was needed for defense; he even had the brandy removed from the medical stores to be served at his parties that rivaled the excesses of the French Court at Versailles. In a way, this was a reflection of what France was doing to deserve losing her foothold in America, and though both French and English governments of the period were equally corrupt, the English, under the leadership of the statesman William Pitt, cleaned up the mess first.

IT WAS PITT who saw that the overseas forces in America had decent support. It was Pitt who saw that capable young officers were given advancement. Without Pitt, men like James Wolfe and Jeffery Amherst might have served their country in obscurity, rather than as brilliant generals.

While the French at Quebec had no naval forces to fight with, Wolfe had the irresistible fleet under Sir Charles Saunders to move his army, and screen it, and support it with the fire-power of 1650 guns.

There were no French guns commanding the tricky traverse 30 miles below Quebec; de Vaudreuil had countermanded Montcalm's orders for them. The Governor had also withdrawn the forces placed by Montcalm on the heights of Lévis, across the river from Quebec, where the British ships could have been caught by a ruinous cross-fire.

Wolfe promptly seized the Lévis heights, placing guns there to cover his ships and blast the city of Quebec. So heavy and sustained was the bombardment of the city that when the English moved in it was a roofless town, blasted and burned and smashed flat. Drawings made by British engineers at Quebec bear a remarkable similarity to what Warsaw looked like after Nazi dive-bombers were through with it in 1939.

Wolfe placed his main force on the lower side of the Montmorency River, where he faced Montcalm's extreme left. His first plan called for a march up the Montmorency, and, after crossing at the fords, striking Montcalm's rear. This was to be somewhere between the Montmorency and the St. Charles Rivers, which are six miles apart. The French forces could see the whole operation; they could even time it in advance because the tides determine when the fords can be crossed here. Wolfe failed. The French and Canadians were well led, and under natural shelter on home ground, put up a sound

fight. Wolfe then tried a power drive on Montcalm's left, and failed again.

IT WAS NOW amply clear that the way to a British victory was to engage the French in pitched battle in the open. Montcalm was well aware that such a battle must result in the capture of Quebec, for his forces were hopelessly ill-assorted. His Canadians had never received training in any unit higher than the company; lines of battle, battalion volleys, and bayonet charges were a complete mystery to them.

Because of Bigot's villainy, the French soldiers were semi-starved, unpaid, ill-equipped. Montcalm had the same ration of four ounces of horse-meat daily as was fed to his men.

Knowing that the next blow must come on the Plains of Abraham, Montcalm ordered a battalion of his limited regular troops to defend l'Anse au Foulon (Wolfe's Cove). The orders were countermanded by de Vaudreuil, who said "the English have no wings." 25 field guns were ordered placed to command the Plains. Montcalm got only three; de Vaudreuil "forgot to order them."

Clearly, if Wolfe could get his men on that level plain he had every chance to win; with the detailed information brought to him by Capt Robert Stobo, he knew how it could be managed.

A bewildering series of maneuvers was begun in August. The British moved their fleet up and down the river, occasionally landing men only to take them aboard again almost at once.

The luckless French force-of-observation under Bougainville had to march or scramble as best they were able all up and down that long shore, trying to maintain contact with the British, who might land anywhere, anytime. Here was a case where ships were used to outmaneuver an army, forcing it to march itself into exhaustion on the eve of battle. Montcalm had no chance to concentrate his forces anywhere along the 30-mile front, nor could he concentrate them in the city. Wolfe's forces might strike anywhere. In the meantime, Amherst was threatening Montreal, and his forces were even greater than those Wolfe had in front of Quebec.

WOLFE BROKE CAMP on September 3d. The next 10 days saw even more movement by the fleet. Obviously, something was coming; the usual guess, on either side, was that Wolfe would try a landing at Pointe-aux-Trembles. Here, where there is only a single exit, he could form his line of battle before Montcalm and Bougainville could join forces.

Wolfe was well pleased to "Let 'em guess, and guess wrong." Not even his brigadiers knew what was in his mind. His final plans took shape September 10th. Montcalm's attention was to be held to the extreme flanks as long as possible. Saunders, with most of the fleet, threatened Montcalm below the city, where once before Wolfe had attacked. Adm Holmes took a strong squadron with a number of troop-bearing transports 20 miles upstream, and threatened Pointe-aux-Trembles on the upper flank. When the night of September 12th-13th fell and the tide turned, Holmes came back downstream. The point of rendezvous was Cap Rouge, seven miles above Quebec. Here, two brigades went in small boats to the beach at l'Anse au Foulon, while a third brigade came across in small boats from the south shore. The boats moved in absolute silence. It is highly unlikely that this was the time chosen by Gen Wolfe for the recitation of his favorite poem, Gray's Elegy, with the dramatic line "The paths of glory lead but to the grave," notwithstanding all fiction to the contrary.

In the informal story as told in Quebec, there was a single challenge from the shore as the boats moved stealthily toward the beach below the pathway. The answer was given in colloquial French, "Quiet, you fool! It's provision-boats for Montcalm. Do you want to get us all killed by les goddammes?"

THE BEACH was guarded by a handful of French led by a man named Vergor. Vergor was one of Bigot's men, cowardly as well as incompetent; he was there despite Montcalm's protests. As the British boats came in sight through the murky darkness, Vergor led his men in a foot-race along the beach in the general direction of safety. There was no shooting; the British landed unopposed, their arrival still unknown to the French.

Twenty-four picked men, the toughest of the commando types of 200 years ago, went up the sentier du Foulon a pair at a time. The informal story has it that Stobo and Clark were with them; they knew the ground; Stobo's French was perfect, Clark's nearly so. Subduing the guard at the top of the pathway was the dirty work of a minute, done in dead silence.

And now to Gen James Wolfe the gateway stood open. His chosen battlefield was available at a time of his own selection. Before Montcalm could possibly arrive in force, Wolfe was able to get his lines formed exactly to his liking, about a mile away from Quebec's unhappy boodle-built walls!

When de Vaudreuil learned that the British were there on the plains, he wrote a series of silly letters to Bougainville, to Montcalm, to all and sundry; his duly recorded letters are a lot of idiotic nonsense. At this vital juncture, the Governor of New France, by his interference with the best efforts of the finest general the French ever had in their history in Canada, displayed every flaw in his character, saw his country lost, and condemned himself forever as an utter fool. Montcalm ordered his men off the plains; de Vaudreuil had the whole left flank remain in their trenches. Montcalm asked the exact locations of the 25 field guns he had asked for; de Vaudreuil admitted

he had delivered only three guns. In supreme disgust, Montcalm got clear of the Governor and called a fast conference with all his senior officers. A rapid exchange of information revealed that none knew more than he did himself.

Montcalm's decision to join battle was not a hasty one. He has been called a bad general for coming out from behind his walls to fight on the plains. He does not deserve that criticism. Quebec was ruined by bombardment; the situation of the population was pitiable; food was short; the walls were inadequate because of grafting by the corrupt clique that ran the country. Finally, Wolfe had managed to deceive him very neatly; it was made to look as though the British line had not been completed on its own right.

In the numerical sense only, the strength of the opposing forces on the plains was about equal, 5000 men on each side. There was a difference! Wolfe's men were hand-picked regulars. Only half of the French troops were regulars, suitable for use in a European style close-order battle. The others were local militia, improperly trained and badly equipped for a battle of this kind.

The British had the low sun of the morning in their eyes. In clear weather this would have been a handicap, but fortunately for them, a light drizzle was falling from a leaden sky. The greatest advantages of the British were the undistracted, single-minded leadership of Gen Wolfe, and the use of a new formation he had developed, whereby his men were formed up two deep.

Montcalm established his forces to the west of Quebec, where they faced the British across the height of land.

It is manifestly unfair to accuse Montcalm of an unsound decision. He took what looked like the only choice open — a hard smash at that deceptive British right, before it could be rectified.

At eight o'clock that morning of September 13th, 1759, the French sharpshooters began a galling fire. British skirmish parties went out to hold them in check, or drive them from their shelter. While the bagpipes of Fraser's Highlanders wailed and droned, the British lay with their faces on the wet grass of the Plains of Abraham — waiting; waiting quietly, too. These men were trained and disciplined to the ultimate degree; above all, they had boundless confidence in red-headed Jimmy Wolfe, their idol as well as their hero. This gangling, awkward young man who had had the doctors patch him up so that he might win a crucial battle was a soldier's soldier. His men would follow him to the gates of hell itself, let alone to the gates of Quebec!

Eight o'clock ... nine o'clock ... ten. And Montcalm struck his blow for France.

TWO COLUMNS of Frenchmen came across toward the British right, another toward their left. As they advanced, troops on the British right moved smartly into position as though on a parade ground. The line was intact! They took their casualties coolly, waiting grimly for their turn to come. A short advance to close the distance ... and the line was dressed again.

Finally, Wolfe raised his sword. Down the long line of battle, the order rang out. There followed a shattering blast as the men of the front rank delivered their deadly volley with all the precision typical of an exercise! A moment passed while the smoke cleared; the second rank

Wolfe led his troops forward on the Plains of Abraham to defeat Montcalm and capture Quebec.

let loose their thunderous volley. Scattered firing followed, but already victory and defeat were inevitable.

Of all Montcalm's men, only the French regulars ever reached close quarters, and they, poor devils, were doomed. Brave men of the Rousillon Regiment fought like the heroes they were, and died with the triumphant scream of the bagpipes shrilling in their ears. It was all over in a quarter of an hour. Every French mounted officer was down. When at last the Royal Rousillon gave way, not a single one of their officers was unscathed ... all were dead or wounded.

As the British charged, the opposition vanished. There was a single exception to a general rout when the British left flank moved close to the edge of the cliffs above the River St Charles. Here the French-Canadians found an opportunity to fight in their accustomed way, and from shelter, held the British for a time, fighting gallantly though the end was inevitable.

The battle was over. The French withdrew to their lines. Beside Montcalm who was mortally wounded, his next four senior officers all had suffered wounds or been killed on the field.

Night found the British entrenched in front of the fortress city of Quebec, victorious, but mourning the loss of their leader. Jimmy Wolfe had been killed too.

That same night, de Vaudreuil bolted for Montreal. Typically, he left no proper orders for defense, retreat, or for anything else. Unit after demoralized unit marched up the road after him.

Five days after the battle on the plains, Quebec City surrendered.

BUT WHAT OF Capt Robert Stobo, who had had so great a part in all that had happened thus far? The informal story has him taking part in the battle, and coming through it unscratched.

However, the record from here on is complete and has documentary support. His next assignment was to take important despatches from Gen Murray to Gen Amherst. The historian J. M. LeMoine has traced his movements to Boston, from where he sailed to England on February 18th, 1760. He left Falmouth, England, April 24th of that same year, returning to Virginia.

The Legislature of Virginia recognized fully the services of Capt Robert Stobo. Early in 1760, a grant of 1,000 pounds sterling was voted as a recompense for his sufferings while in prison, and a further 500 pounds back pay, together with public acknowledgment of what he had done.

The Army List shows that he was commissioned as a captain to the 15th Regiment of Foot on June 5th, 1761. He served in the West Indies from 1762 till 1767, when he returned to England.

He left the army in 1770; he was still only 43, but old beyond his years. He died within the year. If he ever married, there is no record of it.

And there you have the story of Capt Robert Stobo, of the Virginia Volunteers. The wilting of the Fleur-de-Lys of France, the end of the French regime in North America was in great measure due to his adventurous career in the service of his country. The story of the Seven Years War and the Capture of Quebec is incomplete without relating Stobo's story. US MC

Decisive Amphibious

By Major Niels M. Dahl, Inf, USA

IN 1851, SIR EDWARD CREASY GAVE THE WORLD HIS *ideas on the world's fifteen most important battles. Whether or not one agrees with his selection, it is interesting to note how many of these battles were either amphibious assaults, or were dependent upon amphibious operations. It is the author's intention to critique several of these decisive battles, in the light of modern amphibious doctrine.*

MARATHON 490 BC

Why Decisive

The Battle of Marathon released men from the paralyzing fear of Persian arms. It permitted the emergence of ancient Greece, free institutions, intellectual freedom, and democracy.

Background

By 490 BC, Darius, the "Great King" of the Persians, ruled almost all of the civilized world. Athens was a growing City-State, just beginning to spread its influence over the Greek peninsula and adjoining islands. Almost a decade before, the Athenians had intervened in a scrap between the Persians and the revolting Persian colony, Ionia. Though he quickly defeated them, Darius, who had never heard of the Athenians before, decided there and then that they were to be enslaved. The Persians, never defeated before Marathon, were generally believed to be invincible, adding psychological shock to their arms.

Task Force Able

The first force Darius sent against the Greeks was destroyed by shipwreck, but Darius' determination was unshaken, and a second force was ordered to prepare for "Operation Hellas."

Task Force Baker

Datis, a Mede, was selected to command; his deputy was Artaphernes, a nephew of Darius. The total strength has been estimated at 100,000 men, of which 85,000 were combat troops.

Cilicia was designated as the staging area for the Landing Force, which included native Persian and Sacae infantry, cavalry from Khorassan, negro archers from Ethiopia, mountain troops from Hyrcania and Afghanistan, and lightly-armed swordsmen-infantry from Egypt. Most were veterans, but their languages and military organizations differed.

The Attack Force included a fleet of 600 galleys, and numerous PAs and KAs. As the Persian navy consisted almost exclusively of combat galleys, all Persian maritime

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Maj Dahl's first article for the GAZETTE *was* Assault in Miniature *which appeared in the October 1949 issue. Formerly a member of the staff of the Troop Training Unit, Amphibious Training Command, Pacific Fleet, Maj Dahl is now with Army Field Forces Board Number One and is presently stationed at Fort Bragg, North Carolina.*

Battles—1: Marathon

cities were ordered to contribute their merchant marine. The ships were operated by civilian crews, under Persian military commanders. Unlike our doctrine, the Troop Commander was also the Attack Force Commander.

The Embarkation Order specified that certain transports were to be especially fitted to embark, carry, and debark the cavalry. The transports were of a shallow-draft type, designed to be beached — a sort of LST without the bow-doors or ramp.

The Greeks Are "Softened Up"

While the fleet was being assembled, and the TQMs were burning midnight oil, Darius employed psychological warfare. He sent an ultimatum to each of the Greek City-States, demanding submission. So terrible was the fear of Persian arms that the Greek islanders and most of the Greeks on the continent complied at once. At Sparta and Athens it was a different story. Not only were the Persian demands rejected, but the emissaries were almost lynched.

The Persians found and employed quislings in most of the principal cities, often deposed Greek leaders who were opposed to the growing democracy.

The Persian Plan

"Operation Hellas" was to be executed in two phases. Phase I included seizure of all principal Greek islands between Samos and the Greek peninsula, and reduction of Eretria on the Greek mainland. The plan also included establishment of supply bases on some of the islands. Phase II included reduction and seizure of Athens, to be followed by reduction of Sparta.

Hippias, a former tyrant deposed and exiled by the Athenians, promised to incite revolt in Athens with his fifth column provided the Persians would make him puppet dictator. He accompanied the Attack Force, and proposed BEACH GREEN (Marathon) for the main effort. Marathon was selected for two reasons:

(1) A previous expedition of Hippias' had landed there, and had found the beach ideal for landing ships.

(2) The plains immediately inland of the beach afforded a good maneuver area for the Persian cavalry.

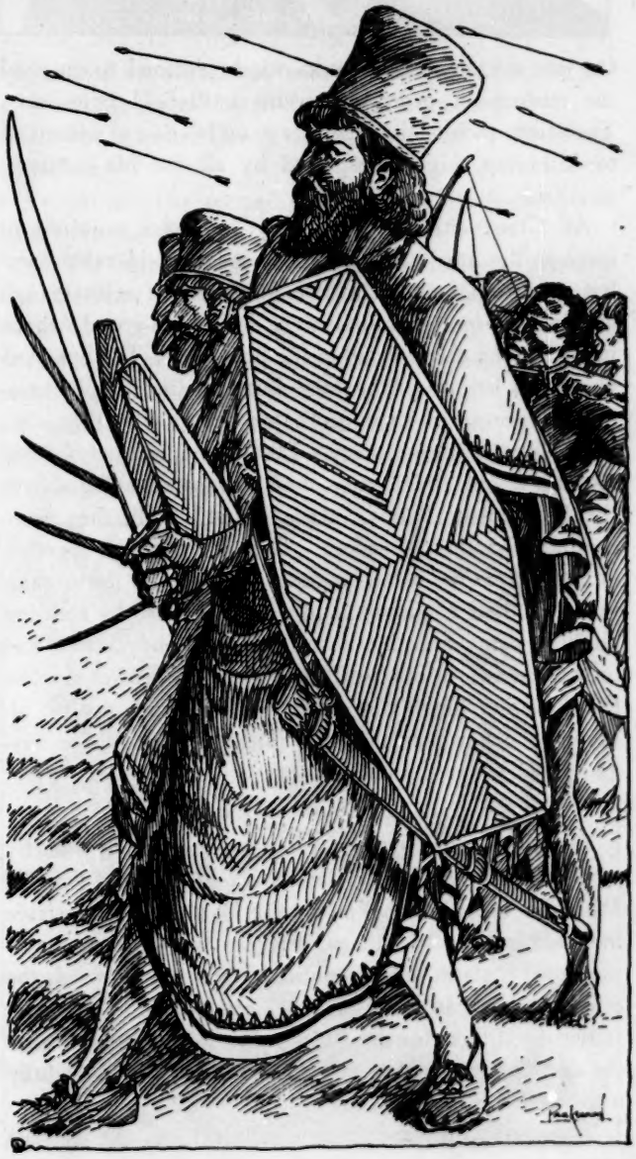
Datis planned to land unopposed if possible; by assault if necessary. The Athenian army was to be defeated quickly, then Athens was to be delivered by Hippias' fifth column.

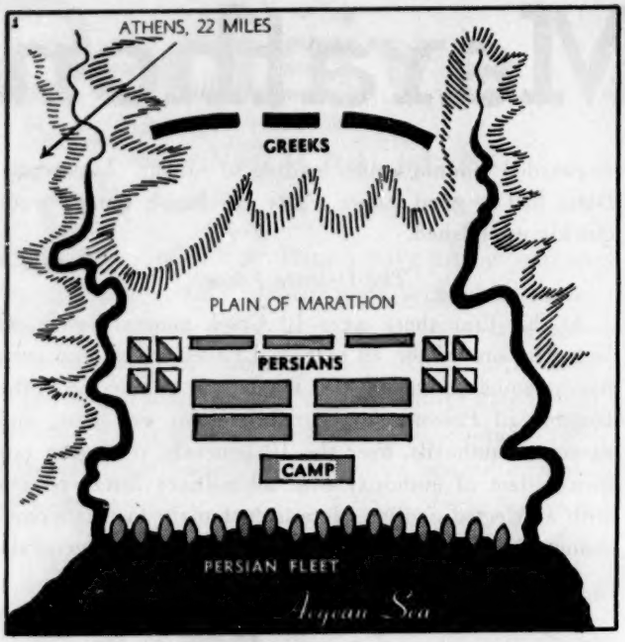
Phase I went off like clockwork.

Phase II started out successfully. While the landing was no surprise, it was unopposed, and the Persians took their time reorganizing, making no effort to seize the unguarded mountain pass leading to Athens. Apparently Datis had a good Shore Party, as beach dumps were quickly established.

The Defense Force

At this time there were 10 Greek generals, each selected by one of the 10 principal Greek tribes, and each having equal authority. One magistrate was elected to the position of *Polemarch* (War-Ruler) for one year, and exercised authority over the 10 generals, presaging our own system of authority over all military forces resting with an elected civilian. It was customary to rotate command of the whole force daily among the 10 generals.





On this occasion, the Greeks wisely decided to suspend the custom in order to ensure battlefield continuity. Therefore, each of the others gave up his day of command to Miltiades, highly respected by all for his soldierly qualities.

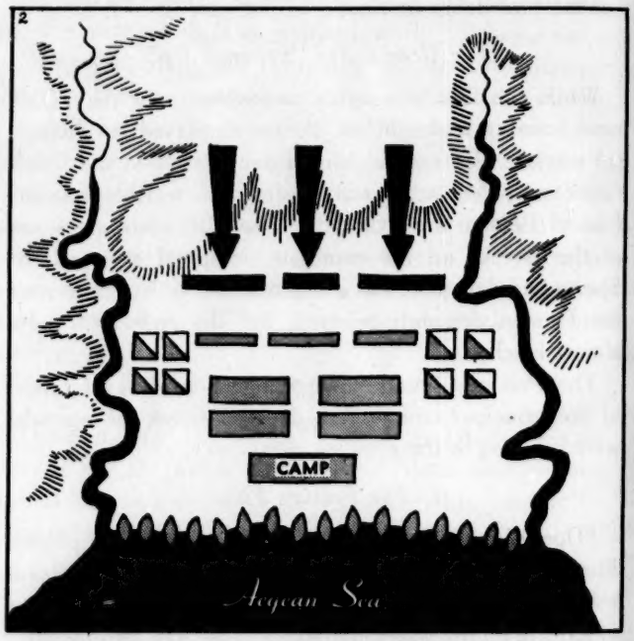
All Greek citizens of military age were required to serve in the army, and most had seen considerable combat service. Of about 20,000 Athenians of military age at this time, more than half were detailed to guard Athens itself, leaving about 9,000 in the field force. The Spartans wanted to help the Athenians, but certain religious ceremonies prevented them until too late. One tiny ally, Platæe, sent its whole army—1,000 men! Miltiades' force totaling about 10,000 men, had certain advantages over the 85,000-man Persian army. First of all, they were fighting for their freedom. They had fought together before, spoke the same language, understood the organization of their neighbors, and were controlled by a strong chain of command. Moreover, they had body armor and bronze shields, as opposed to the Persians' wicker shields. On the other hand, they had no archers or cavalry, although the bow was the long range weapon of the day, and cavalry was the shock force.

The Defense Plan

The plains of Marathon are enclosed on three sides by mountains, shaped like a horseshoe open toward the sea. Miltiades occupied the mountain in the center, astride the pass leading to Athens. Five of the Greek generals preferred a static defense until the Spartans arrived, the other five were in favor of attacking as soon as possible. It remained then for the *Polemarch*, Callimachus, to cast the deciding vote. Miltiades is credited with successfully urging him to vote for attack.

While the invaders were wasting time, the Greeks planned their counterattack. Having no cavalry, Miltiades planned to prevent successful use of the Persian cavalry. Knowing the unwieldiness of the Persian host, he planned to bring about an engagement which would place a premium upon the maneuverability of the Greek phalanx. Miltiades divided his force into three parts: a comparatively weak center, and two strong wings. Once contact was made, the center was to withdraw slowly to a very strong natural position, extending the Persians in pursuit, and the two wings would execute the envelopment.

Speed would be essential during the descent from the hills and until contact was made. The intervening area



must be crossed so rapidly that the Persian archers would not have time to inflict crippling casualties on the Greeks.

Timing was essential in the launching of the envelopment. If it were launched too soon, the Greeks themselves might be enveloped. If launched too late, the Persians would have built up enough strength in the salient to repulse the wings. In either case, it would mean failure for the Greeks.

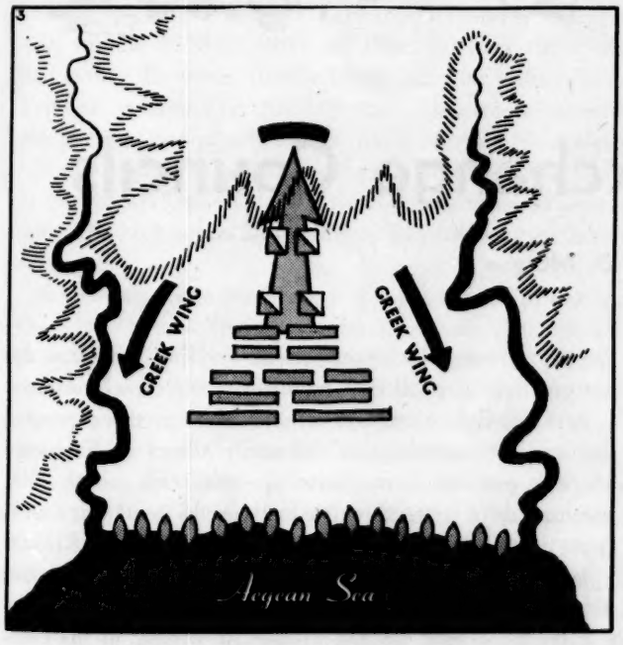
Datis Divides His Forces

While the Greek generals were making their attack plan, Datis made his second big mistake. Observing the Greeks now occupying the mountain pass, he realized how difficult it might be to force his way through to Athens. There was another land route along the coast, but as the mountains come very close to the beach, it would canalize his force, rendering it particularly vulnerable. Therefore, he decided to reembark the greater part of his landing force, including most of the cavalry, sail to Athens, land there, and defeat the home guard while Miltiades was held in place by the rear-guard at Marathon.

The Battle

When the Greeks saw the "Athens Force" sail away, they launched their attack, catching the remaining 20,000 Persians by surprise. Perceiving the solid phalanxes roaring down upon them with only long, sharp spears and bronze shields visible, many of the auxiliaries headed for the beach — and home. The native Persian infantry formed behind their wicker shields, and bore the brunt of the initial attack, sustaining severe casualties, as their shields would not turn the heavy Greek spears. Soon, other Persian forces joined the battle, appearing to force back the Greek center as the Greeks' planned withdrawal began. When the Persians were fully extended, Miltiades' two heaviest forces, the wings, crashed down on them. The Persians were surprised again, thrown into utter confusion. Their tactical organization was so loose that the Persian commanders were unable to counter the Greek maneuver. The Greek center rejoined the wings, and crushing the Persians back on their own supporting troops, drove them to the beach.

The Persians made very little effort to defend themselves until they were aboard the ships again. At this point the Greeks sustained their only considerable losses, trying to fire or to board the landing ships. The Persians, now desperately fighting for their very lives, inflicted



many casualties.

The Box Score

The Battle of Marathon was over. The Greeks had lost only 192 men, the Persians had lost 6,400 men. These amazing figures are actual counts of contemporary historians. The Persians also lost seven galleys captured before they could get them off the beach.

Miltiades detailed a small force to guard the dead and the spoil, and led the rest of his force back over the mountains to Athens, arriving there before the Persian attack force landed. Datis, realizing that it was too late to attack Athens, called off the operation and sailed back to bring Darius the bad news.

This signal defeat of the most feared army in the world changed the course of world history for all time. The Persian empire remained powerful but the world now knew that it was not invincible. Most important, oriental philosophy, government, and religion were barred from Europe long enough to give democracy and other occidental ideals a chance to grow.

The Moral

What are the lessons this first of the decisive battles of the world teaches the modern amphibious commander?

1. Tactical Advantage Must Not Be Jeopardized.

Datis could have seized the pass without opposition, and probably could have reduced Athens — had he acted promptly.

2. The Initiative Must Be Maintained.

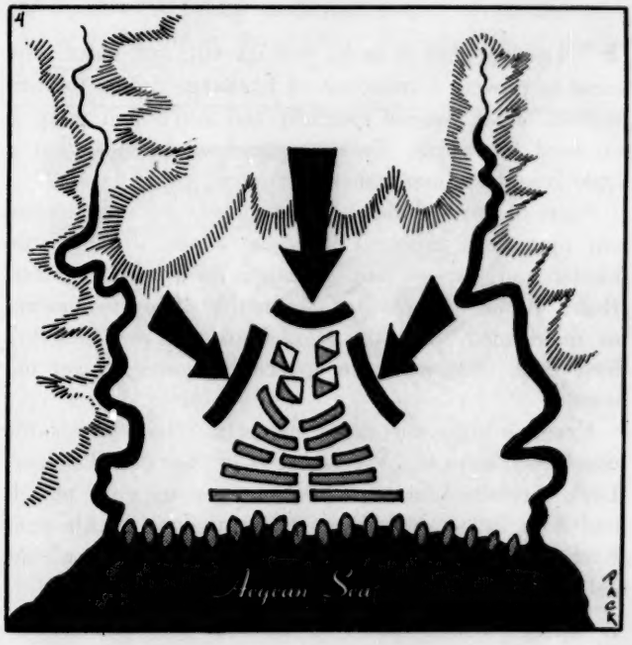
Datis lost the initiative when he failed to attack, and aggravated his mistake by withdrawing part of his forces, allowing the remainder to become disorganized.

3. The Landing Force Must Be Given a Clear-cut Objective.

Persian activity seemed aimless, once the landing had been accomplished.

4. The Selection of a Landing Beach Must Take into Consideration *the Subsequent Plan of Maneuver* for *All* Arms.

The beach at Marathon was suitable for beaching ships and the area inland was well-suited for cavalry maneuver but apparently little thought was given to the strong defensive position it offered the Greeks, or the limited routes of egress it afforded the Persians. US MC



Profit Ideas For Exchange Councils

By LtCol Glenn D. Morgan

THE SQUEEZE IS BEING PUT ON YOU FOR SOME NEW ideas to prevent a reduction of Exchange profits for recreation. Look around carefully and you'll find there is no need for worry. Sure, you've been hit hard but a little resourcefulness can reverse your profit trend.

Some of our technique is antiquated. Let's modernize our operations, trim off the loose edges, work a little harder and increase our donations to Special Services. How? By better control or elimination of concessionaires or middlemen. Yes, the good book said we shouldn't have them; but when we opened the gates we got too many.

Examine your operations in detail. Don't accept the usual assurances that everything is in "wonderful shape." Look carefully into all angles, sharpen up your pencils and do a little calculating. However, don't heckle your Exchange officer. Help him because he can use all the help he can get.

Let's examine some possibilities in detail. Let's base the next three calculations on 30 vending machines operating during a 30 day month—or 900 machine days.

a. Coca-Cola machines should average three cases a day and a concessionaire ordinarily allows an Exchange 15 cents per case commission or $405.00 a month (900 machine days times three cases times 15 cents per case). Now, if an Exchange owned these machines at $325.00 apiece, depreciated them at one per cent per month, and hired a man at $175.00 a month to accompany the servicing truck to pick up the money, it would, at 40 cents profit per case, net $808.50—almost twice as much. (900 md times three cases times 40 cents minus $97.50 depreciation minus $175.00 wages.) At two large Marine Exchanges the Coca-Cola Company provides trucks, drivers, and gasoline to service the machines, sells new electric automatic machines at $325.00 and will accept them back on a turn-in value of original price less one per cent per month depreciation.

Bottle losses have been used as an argument against

Let the Exchange Officer make the money for the post . . .

Exchange operation of bottle vending machines. However, several Exchanges have established successful bottle collecting controls which eliminated losses at all but a few locations. At these places, concession cup machines were placed at 25 per cent net commission to the Exchange.

b. If the candy machines are working for someone else, it usually works out that the Exchange gets one half cent of the two cents per bar profit. On machines that average 60 bars a day the Exchange's monthly commission will be $270.00 (900 md times 60 bars times one half cent). However, the Exchange can buy eight column Vend-all machines at $150.00 each, depreciate them at one per cent per month, hire a man to service them along with the cigarette machines and net more than three times as much: $895.00 (900 md times 60 bars times two cents minus $45.00 depreciation minus $150.00 service man's salary).

c. The cigarette machines will work out about like the candy machines. The concessionaire usually lets the Exchange have one half cent of his three cents per package profit. At 30 packages per machine per day the Exchange's commission will be $135.00 a month (900 md times 30 packs times one half cent). On a direct ownership basis, the Exchange stand to make four times as much: $615.00 a month (900 md times 30 packs times three cents minus $45.00 depreciation minus $150.00 wages). The cigarette and candy machines can be identical. One service man at $300.00 a month, required to furnish his own truck transportation, can handle the 60 candy and cigarette machines.

ONE MARINE Exchange is the jobber for three national brands of beer and thereby nets an extra 60 cents per case. A smart piece of work! They not only make a substantial profit by wholesaling it to other Exchanges, but they provide good beverages to their men at a surprisingly low cost and still make a lot of money. It will take all the finesse available to manage a distributorship, but maneuvering and unwavering determination will break through and then the others will follow along. Smaller Exchanges will have more success with local concerns, especially those not now represented on the post.

Barber Shops should very definitely be a profit producing enterprise. Marine Exchange barbers usually have hours similar to bankers and take home pay considerably better. In calculating their earnings, don't forget to include their tips—from one to three dollars a day! And the head or managing barber who was hired along the way to do the managing job for the Exchange Officer—just eliminate him and add that gravy cut of his to your monthly earings. Barbers should receive 70 to 80 per cent and be required to furnish their tools, barbering jacket, and laundrying thereof. Barber supplies and laundry are then furnished by the Exchange. These average about seven per cent of the receipts leaving about 13 per cent net to the Exchange.

Are you getting the maximum commissions from your cleaning, pressing, and laundry establishments? An honest and thorough check may be interesting. One such similar showed that large reputable laundries and cleaning plants make a practice of doing work on a wholesale basis and are mighty glad to get as much of it as possible. The small shop keeper, the truck drivers who solicit around your barracks, and maybe even your concessionaire, operate in this way with a resulting 50 per cent gross on cleaning and pressing and 25 per cent gross on laundry. A cleaning and laundry operation in a government building, using Marines, should net what the small civilian shop grosses less the price differential. A careful look-see

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A graduate of UCLA, LtCol Morgan was PX Officer on Guam when the Japs overran the island. After the war he became PX Officer at Camp Lejeune. At present time, he is a student at Amphibious Warfare School, Senior Course.

. . . and the Special Services Officer spend it.

The Exchange is the business organization . . .

might double your revenue. Work direct with the wholesaler and bypass the middleman. With reduced Exchange prices, the civilian concessionaire operating in your Exchange buildings should give you a minimum of 15 per cent on laundry and cleaning lumped together. All laundry and cleaning, with the possible exception of that picked up at quarters, should pass through Exchange control. One Exchange has increased its monthly profit by 15 percent just through such a control.

The usual procedure is to let the cleaning concessionaire handle alterations for the Exchange. At minimum charges, considerably under those charged at civilian shops, using skilled seamstresses at 80 cents an hour, your Exchange can net about 50 per cent of the alteration charge, provided you keep your seamstresses busy. Most civilian concerns who pick up alteration work on your post pay their seamstresses about one third of the charge.

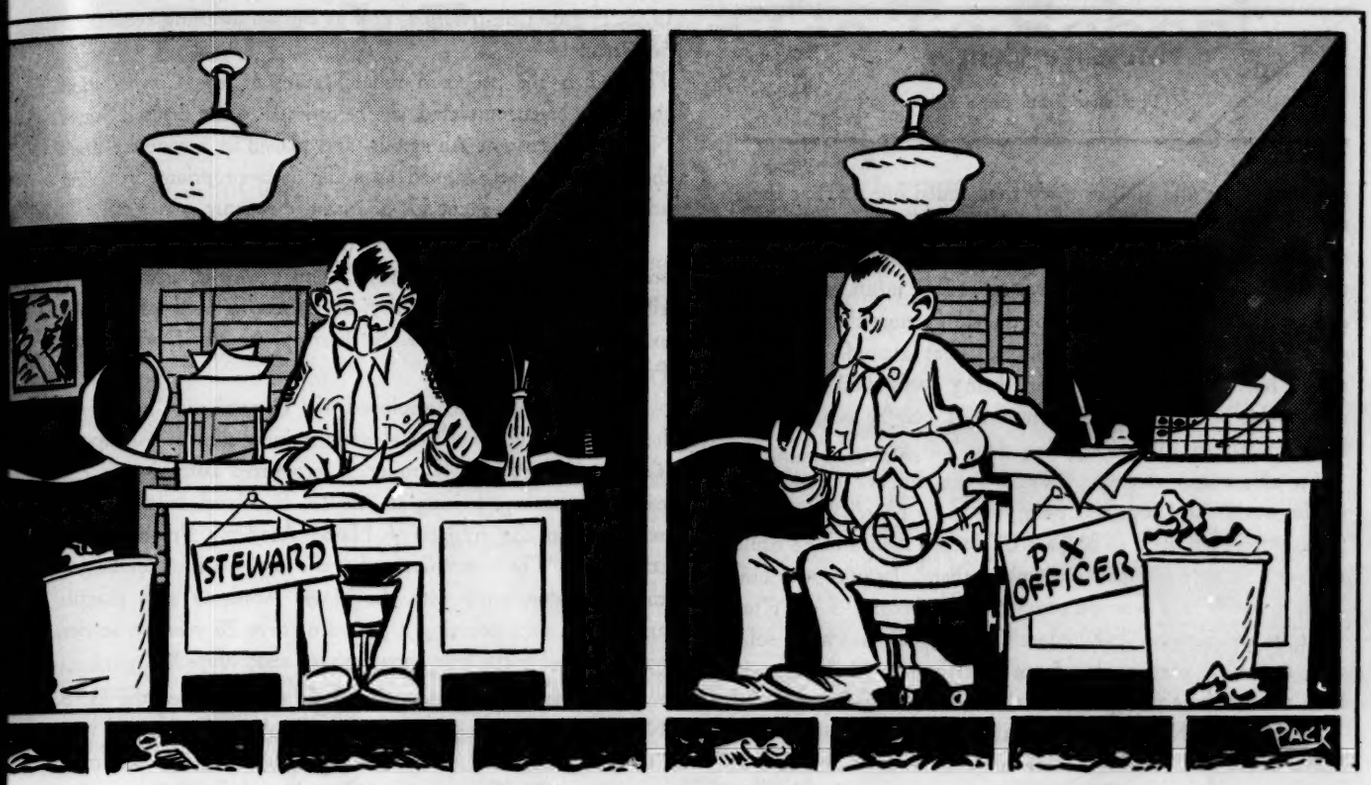
Larger Exchanges can successfully work an angle on potato chips, pastries, and the like. A salesman vends them to the Exchange and distributes to the branch outlets and makes a substantial middleman's commission. Buy direct and earn this salesman's cut for the Exchange. Some are, are you?

POSTAGE stamp machines ($30 each) and penny weighing machines ($92 each) will pay for themselves in less than a year and a half and from then on it is all clear profit. With a little pressure, you can get 60 per cent commission on your juke boxes, or the usual 50 per cent and two plays for a nickle. Don't let the concessionaire work a minimum or guarantee clause benefiting himself into the contract—straight 60 per cent on total receipts verified by your treasurer or yourself!

SELECT one good milk company, give it the concession on your post with two cents per quart accruing to the Exchange or as a reduction to personnel in quarters. Shop around for another photo finisher and find one who will give the same service at the same prices with more commission to you. Watch repair and photo shop concessions can be eased up to contributing at least 20 per cent of their gross receipts without any increases in charges—they'll scream, but they won't be able to do as well off the post.

Bigger commissions can be secured from those ice cream trucks which come on to the post. One Exchange gets 10 per cent of verified total receipts, prohibits the trucks from Exchange areas during their open hours, and requires that 16 per cent butterfat Hostess ice cream be sold at 25 cents a pint. Others let the trucks compete with their own operations, get only 10 per cent of unverified receipts and the trucks are allowed to sell at maximum prices of 35 to 40 cents per pint.

Another Exchange earns a handsome profit from a wholesale setup within its own organization. This activity manufactures sandwiches, doughnuts, popcorn, and hamburger meat, which it wholesales to the branch exchange activities at prices formerly paid to outside wholesalers.



. . . of a Marine Corps post.

The middleman's profit of from $1,000 to $3,000 per month, depending on troop level, now stays on the post and helps build up a good monthly profit report.

Modernization of your bookkeeping will help. Good cost accounting procedures will add many dollars to your earnings statement. Secure authority, as others have, to report true profits rather than those computed by a formula. Using the formula, one Exchange in a period of six months this year, had true profits of at least $30,000 more than those reported to the Council as available for donation to Special Services. Supplement present reporting forms with explanatory profit and loss statements, comparative monthly sales by departments or activities, and other forms of modern day accounting which will be comprehended by the average Council member. It is imperative that the true status of the operation be plainly stated. Those reports which require interpretation or explanation as to their meaning, provide opportunities for misrepresentation.

THE EXCHANGE is the business organization of a Marine Corps post. A well paid civilian business staff should be maintained in the larger ones. All commercial operations of the post should be centralized under the Exchange Officer (with the exceptions of Officers' Clubs and NCO clubs). There is no reasonable justification for sandwich counters, malt shops, golf shops, beer halls, restaurants and the like operating under the Special Services Officer or the Hostess House Officer. Dispersal of these activities results in duplication in purchasing, cash handling, banking, accounting procedures, transportation, inventories and audits. Let the Exchange officer makes the money for the post and let the Specials Services officer spend it. It is better not to mix the two. If the Hostess Houses could be put under Exchange management, further duplication would be eliminated and overall management costs reduced.

Operations must be viewed with the cold analysis of the modern day business executive. Sentiments for old ways, friendships, or personal favoritism must be disregarded. Shrewdness, bargaining, and direct dealing with principals will put dollars into the coffers. There is no need to worry, if there is a will to dig for every nickle that rightfully belongs to the Exchange.

And a final word about concessionaires and middlemen—their operations must be carefully controlled. If possible, all monies should be collected and all expenses paid by the Exchange. This will provide a check on earnings. There should be little hesitation on the part of the Council to control concessionaires' earnings by an increase in profit to the Exchange. It is important to keep in mind that the major factors contributing to their success are the protected monopoly they enjoy, the excellent business location, and the usual rent-free accommodations.

Let's provide more money for our recreation fund by allowing less of it to slip through our fingers and into outside hands.

US MC

Message Center

continued from page 12

contemporaries and juniors carry that added burden, but there always have been and always will be, I trust, enough marines of an objective rather than subjective turn of mind and character to do just that. By objective attitude I mean one that is concerned with the betterment of the Corps more than with the advancement of personal ambition. That attitude pays off, too. I have rarely heard of merit being overlooked and unrewarded far beyond their just deserves. I may be one of those latter myself so I'll quickly drop that subject.

An officer said the other day that he did not know what in the world the Corps was going to do by March because so many good men were to be paid off before then and he could not see how we could possibly replace them. I can't guess how many times I have worried over that one before. I can't tell what we are going to do by March but we will have some solution, imperfect perhaps, but I am sure that by March he will have two or three new problems that will dwarf that one.

I think it highly improbable that many of the men in that billet that night I spoke of are around to see this, but one of them might be and I am hesitant to sign my name at the end of this. I can hear anyone of them, if he remembered me at all, say "Why that no good rubber sock! Imagine him sounding off with his name just getting dry on the book!"

But if Gay or Parris or Wolfagel or any of the rest do see it, I think we can say to them that we haven't done too badly with the Corps they left us. We might have done better, but so could they perhaps. And maybe this second crop of war babies will do better than any of us have. I am inclined to believe they can.

With a bigger Corps and bigger responsibilities they have bigger problems, one of which is far more jealous opposition, that are really tough. But I am not worried about them and you need not be.

One of these recruits just arrived from boot camp will be saying in 1960 to a more or less respectful bunch of new recruits, "So you think this is tough! Now when I came in in 1950 it was really tough! Why I remember——"

W. S. Brown
Col. USMC

Ed.: Many marines will no doubt be glad to know that Col W. S. Brown is one and the same as the well-known artilleryman, Col Big Foot Brown.

Restoring Constellation . . .

Dear Sir:

Thinking that the subject might be of interest to your readers, this letter outlines the writer's recent suggestion submitted to the Navy Department relative to the famous old U. S. Frigate *Constellation,* now at Boston awaiting rehabilitation, namely—

That when the proposed rehabilitation of the *Constellation* shall have been completed, she be ordered to the United States Naval Academy, at Annapolis, and placed in a concrete dock there, thus to be assigned as a highly appropriate, inspiring adjunct to the excellent U. S. Naval Academy.

Such a suggested disposition of the *Constellation* in a concrete dock would be somewhat similar to the arrangements effected by the British Navy in preserving and placing on exhibition the old H. M. S. *Victory,* in the Dockyard at Portsmouth, England.

In point of years so employed, the *Constellation* has served longer than any other vessel as a training-ship at Annapolis. The late Mr P. H. Magruder, a recognized authority on Annapolitan history, writing in the U. S. Naval Institute Proceedings, on the subject of Naval Academy Practice ships, stated that "The *Constellation* has the distinction of the longest contiuous association with the Naval Academy as a practice and school ship, covering a period of over 20 years in service, and is probably the best known of her sister-ships."

Thus many of our most distinguished officers of the U. S. Navy have "cut their nautical eye-teeth" on board, and have "spiked" their midshipman hats high aloft over the main-truck of historic old *Constellation.* Veritably, that old Frigate has, in her cruising days, literally constituted a cradle for the United States Navy.

Across the years many famous U. S. Marines have also served in the gallant old vessel.

Furthermore, the cities of Baltimore, Md., and Newport, R. I., having long laid claim to the presence of the *Constellation* in their midst, it would thus appear that those claims can never be completely resolved to the satisfaction of both cities. It would therefore seem that a happy compromise could be achieved by sending the *Constellation* back to her old home —the Naval Academy at Annapolis.

Especially admirable is the historic record of the *Constellation,* eminently qualifying her as a dynamic symbol of the grand tradition upon which the United States Navy has been built. Moreover, placed at Annapolis, as above recommended, the venerated Frigate would continue to serve as a visible inspiration to the generations of Midshipmen, as well as to all others who may aspire to a Naval career.

It is worth recording here that, launched in September, 1797, the *Constellation* was the first of our three famous Frigates to put to sea. She was also the first vessel of the U. S. Navy to engage in battle, capturing her formidable foe. Little wonder, then, that she has been affectionately termed the "Mother Ship of the U. S. Navy."

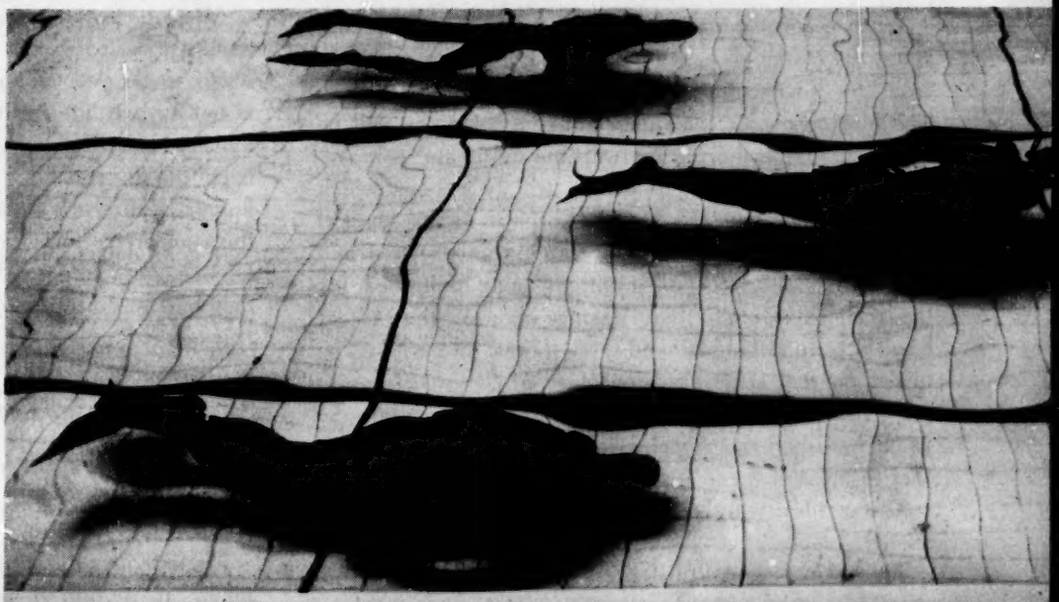
This letter is accordingly closed with a slogan of sentiment, and with the hope that time will see it fulfilled: "Return the *Constellation* to the Severn!"

Lucius C. Dunn
Capt, USN (Retired)

British Frogmen Go To School

Photographs by British Information Services

British frogmen proved their effectiveness on many occasions in the last war, particularly in 1944—"D" year—against Hitler's vaunted underwater defenses along the European coastline. Now an established part of the Royal Marine Corps, frogmen are trained at the Royal Marine Amphibious School in separate units specializing in various underwater tasks. All are volunteers who have undergone normal Marine training including service afloat.



Looking like their names frogmen of the Royal Marine Amphibious School practice underwater swimming.

A Royal Marine officer (pointing) instructs a class in the use of the Davies underwater escape apparatus.

A canoeist hands a trainee frogman a limpet mine for attaching to the hull of a ship. The canoeist has taken the frogman to the selected point. He will wait for him to complete his task and after that, convoy him back to his unit.

Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Marine Novel . . .

MASK OF GLORY—Dan Levin. 278 pages. New York, N. Y.: Whittlesey House. $3.00.

When a former Marine writes a war novel about Marines, the reader picks it up eagerly, hoping for a change from the "disillusionment" and "debunking" war novels. The Marine reader can't help thinking "this one will be different," remembering his wartime outfit and companions with pride. Here, he thinks, will be a book which tells the public why the Marine Corps is great. He will pick up the book looking for familiar characters and situations, for the story of traditions being multiplied, for the grim cheerfulness that Marines show in the face of hardship. In hoping to read these things, he may well be misled by the jacket blurb on *Mask of Glory*. It says in part, ". . . . These are men as they were—missing are the usual hard-boiled, cynical, oversexed GI's—doing a job that to most of them had very little meaning . . ."

The reader will be disappointed and probably disgusted.

Mr Levin is a skillful writer. His powers of description are considerable; he can draw characters, maintain suspense, and hang a story together; he is capable of producing some very authentic touches, such as always having the small man in the platoon carry the BAR or the flame-thrower. But in *Mask of Glory* he has written just another defeatist and faithless war novel, in three-and-four letter Anglo-Saxon words.

The narrative concerns a Marine named Glenn Manson, born Kasimir Minkiewicz. His father changed his name because he was ashamed of being an immigrant (among other things, Mr Levin seems to be trying to show what a miserable life immigrants, even of the second generation, have in getting along in America; that they are without pride and without much hope). Beginning in stream-of-consciousness style with Glenn's enlistment and departure for boot camp, the story carries him through his recruit training, departure from the States with a replacement outfit, a period in a staging area, and battle on the island where, after undergoing numerous horrors, he is killed. The last chapter winds up in a sort of bitter happiness with his family feeling more like Americans because of Glenn's death.

The first two chapters are fairly good. They show something of the Walter Mitty which is in many Marines when they enlist; and the description of boot camp seems to ring true — here, the book tells something of what makes a Marine a Marine.

After the second chapter, the reader's hopes for the book are systematically and ruthlessly dashed. The rest seems to be devoted to showing that the Marine Corps is not such a hot outfit after all; that its traditions are figments of a PIO's imagination; that the average Marine is confused, beaten-down, ill-fed, and ill-housed; without humor, optimism, religion, purpose, or the ability to think clearly. The war years are "lost years" to Mr Levin's characters. If they come out alive at all — which they seldom do in this book — their lives are warped and ruined.

The author speaks of "... the unlucky, bleak, cruel scheme of a Marine's life ... liberty wagon filled with drunken, homesick, sad boys . . . immaculate officers' khaki ... hurt, subdued anger, sour kind of pride. ..." Everything seems horribly mismanaged, as the author pictures it.

There is much description of the horrors of war in this book. It is full of the smell of "roasted flesh," the "scream" of shells, minutely described corpses, utter frustration, and the collapse of character. There are a number of technical mistakes, most of them minor, but some of them misleading. Besides being over-written, much of this book is written in bad taste and is needlessly offensive.

The theme of *Mask of Glory* seems to be that the war was started and run by "the bosses" and that they sent "the workers" out to do the fighting and suffering; and sent the officers and senior NCOs along to drive them.

Dan Levin was a Marine during the war. He took part in the battles of Saipan, Tinian, and Iwo Jima. He has been a social worker, reporter, publicity writer, and teacher. At present, he is on the staff of the U. S. Mission to the United Nations. **ARC**

Decisive Battle . . .

GETTYSBURG — Earl Schenk Miers and Richard A. Brown. 291 pages. New Brunswick: Rutgers University Press. $3.50

The authors of this book have attempted nearly one hundred years after the battle of Gettysburg to give a unified narrative of that battle through the eyes of par-

ticipants and observers. The book contains, in all, 92 excerpts from the testimony of 42 witnesses. The result is a vivid mosaic of the whole battle that represents both sides and has a three dimensional depth to it; it is not confined to the higher levels of rank or to exclusively military observers.

The authors are frank to say that they present here rather the raw facts of history than history itself. The reader will have to evaluate each passage by such canons as the self-interest or self-vindication of the writer and by the length of time that elapsed before he wrote the passage. The particular skill of the authors, the two who did the combined task of research and editing, lies in their intelligent and patient weaving of the various strands of thought, comment, and observation into a smooth story. Their selection of events, however, presents another hazard for the reader; he must himself judge if the presentation is complete, unbiased, and from a sufficient number of varied events.

The book was written for the layman rather than for the military student, but the latter can read it with considerable profit since it deals with area too frequently neglected in military history — that measure of time and space between the giving of a command and the execution of it. The student will here find, in other words, a study of "friction" — all the things that can happen to a good plan.

The authors have been clever at unfolding the battle, developing it slowly first from one side and then the other so that the reader gets something of the illusion of being a participant or ubiquitous spectator. As the reader moves with the troops, he sees that the battle is a constant electric series of decisions made by the officers in charge of units, accepted or rejected by the men, changed or confirmed by orders coming from above. It is this complex of decisions that wins or loses the battle. If the officer, unwilling to use his initiative, leans too heavily on higher authority in a realm where only he has firsthand knowledge, his opportunity may be lost. If the commanding officer insists too rigidly on a given order — or gives too wide a latitude of choice in an order, the whole plan of the conflict may be split or ruined. If the troops cannot see the sense of an order, its full impact will never reach them. Here, for example, is a young Confederate officer who dislodges a body of sharpshooters from Big Roundtop. On the summit with his men he realizes that he is protected by a cliff and a canyon from attack by Union troops, that he has access to the Confederate lines, that with an artillery piece he could sweep or enfilade the whole Union line. A courier finds him and orders him down into the attack on Little Roundtop. He assaults vainly men entrenched behind stone fortifications. Here again is the beginning of Pickett's charge, Longstreet giving the final order for the advance. The manner, the intonations of that order, may well have had a bearing on the final outcome. On the other side of the battlefield, the Union troops move forward from under the barrage, and a young officer describes in some detail the preparation for the charge they knew was to come. The group of generals settling down to wait with the troops had a definite effect on morale.

The book is singularly effective, and yet a tour de force: the fog of battle is dispelled; the important points of the battle are intelligently emphasized; and yet at this distance in time, it is impossible to tell whether the simplification is the truth. With its manifest faults, however, the book makes one thing very clear: the difference between the science and the art of warfare. The first is the basis for the second, and yet, except in the most routine matters, the second contains the secret of winning battles. There are few precepts for the art of warfare; it must be learned by experience on the battlefield or from those who have been there. It does seem, however, that in the history of modern wars, we have neglected to preserve in the record just that complex of decisions made that is important for understanding a battle. In the record of a modern campaign we can follow the strategy of the operation and the comprehensive tactics used. We can read of heroic individual exploits, and through the mechanism of the mass interview, often trace the actions of an individual soldier. But we cannot learn the processes by which brilliant or successful decisions were made by subordinate officers. **PDC**

Study of Iran ...

RUSSIA AND THE WEST IN IRAN (1918-1948) — George Lenczowski. 383 pages, illustrated. Ithaca, New York: Cornell University Press. $4.50

After having been completely eliminated by the German defeat of 1918, German influence was, in the summer of 1941, once again in the ascendency in Iran. Consequently, the attack on Russia by Germany, and the British alliance with that country, were soon followed by the movement of Russian troops into Iran from the north, to cover their southern flank; coupled with the movement of those of the British from the south to close the road to India and to open a land route for the transport of supplies and equipment to their ally.

Thus, as it had been at the time of Napoleon's grandiose schemes for the conquest of India, the period of the rise of the British Empire, the expansion of Tsarist Russia, and the reaching out of Imperial Germany for her "Place in the Sun," Iran assumed a position of world-wide political and strategical importance in relation to the great powers.

Immediately, the Russians closed the borders of the northern Iranian provinces which they had occupied, allowed Iranians to enter the area but excluded all foreigners, including those with an official status; disinterred

the suppressed Communist Party which had been driven underground, and not only supported that faction through the many newspapers that immediately appeared in support of the party line, but on the occasion of a communist revolt in one of the northern provinces employed the Red Army to close the frontier to the Iranian troops dispatched by the central government to restore order.

In Iran, the "iron-curtain" was lowered in 1942, and (while their governments at the top level were allied against a common enemy) a "cold war" was waged locally by the British and the Russians until 1945, long before those expressions became household words among the English-speaking peoples.

Commercial British and American news agencies, such as Reuters and United Press were subjected to strict censorship, and the Kremlin's viewpoint, projected through the medium of Tass, an official governmental agency, was the only account of the Iranian situation received by the western world until after the war. Therefore, the events in Iran, which clearly foreshadowed the events to come, were unknown beyond the borders of that country until after the cessation of hostilities.

The brunt of the task of opposing Soviet expansion southward to the Persian Gulf, through diplomatic channels and propaganda mediums, fell on the British. American participation in Iranian affairs during the war years was mainly devoted to such activities as those of the Persian Gulf command expediting supplies to Russia, and a mission engaged in the organization of the Iranian gendarmerie, both of which were efficiently carried out. The most important American mission, however, the Financial Mission, which exhibited singular ineptness in dealing with semi-colonial peoples and comprehending Oriental psychology, failed completely. Positive action was not taken by the United States until 1946.

This book concentrates on political matters with the main emphasis on Iranian relations with external powers; and, although Iran has for generations past been in the position of a pawn in power politics, the period under discussion here stands as a separate entity, apart from preceding eras, in that previously, rivalry between the world powers in the Middle East was an imperialistic conflict for national prestige and territorial gain. But since 1918 the conflict between Soviet Russia and the West, which is the essence of this study, has been the rivalry of two mutually exclusive ideologies, "the program and techniques of Soviet expansion," and on the other hand, "the methods employed by the West to counteract this expansion."

The recipient of a master's degree from the University of Warsaw and a doctorate from the University of Lille, the author also served for seven years with the Polish Foreign Service and one year as a Research Fellow at the School of Advanced International Studies in Washington, D. C.

Russia and the West in Iran is more a factual account than a strict analysis or criticism, based on such original documents as treaties and Comintern publications, supplemented with secondary material from press reports and existing literature on certain aspects of the period covered. The study is further augmented by the personal observations of the author, made during his tour of duty as Press Attaché of the Polish Legation in Teheran during the critical years between 1942 and 1945. The result is an informative volume which may well serve as a hand book of political information for industrial, commercial, diplomatic or military representatives whose duties may be related to the area under consideration.

Of even greater significance is this book's value to the general reader. The author has presented a well-documented and very readable body of facts, which, in conjunction with an exposition of Russian principles and Soviet methods, further amplified by the inclusion of the full texts of pertinent original documents in the appendices, clearly delineates the Soviet theory of expansion and the means to be employed in its realization.

As in the military art, so in international affairs, "understanding of the pact serves as a guide to the future." The reciprocal relationship of the avowed Russian goal of world domination through communization and the factual record of the Soviets since their rise to power should convince the most wishful thinker that the blueprint for Soviet expansion is not merely of academic or antiquarian interest, but a living force which has been aggressively implemented and maintained with constant pressure since its inception; shows no signs of abating, and reveals a threat beside which Russia's recent acquisition of the most powerful modern explosive, pales to relative insignificance. **CSN**

Reloading Ammunition . . .

WHY NOT LOAD YOUR OWN? — Col Townsend Whelen. 215 pages, illustrated. Washington: The Infantry Journal Press. $3.50

If you are interested in trying your hand at reloading your own ammunition, you will find Col Whelen's latest book, *Why Not Load Your Own?*, an excellent text on this interesting hobby. Its subtitle, *Basic Handloading for Everyone*, is a very apt description of this book. For the beginner or the advanced loader, it is unsurpassed by any other book in its price field on the market today. It covers, in an interesting, not too technical style, every operation in reloading a fired cartridge. Starting with the removal of the fired primer, it carries the reader through all the rest of the steps in reloading such as the resizing of the fired cartridge case, repriming, measuring and loading the powder charge, casting, lubricating, and sizing the bullet, until the finished cartridge is ready to be fired again.

As ammunition prices have crept steadily upward since the war, the serious shooter is continually on the lookout for ways to keep up his shooting activities without curtailing such habits as eating, smoking, or taking the little woman out to an occasional show. Shooting, to put it mildly, is becoming rather expensive. For most shooters the practical thing is to reload their fired cartridge cases. Because the fired case makes up better than three-quarters of the price of a new cartridge, the soundness of reloading can be readily seen. In addition to cutting our shooting costs, most of us have found that handloaded ammunition is more accurate than that which is made on machines in a factory. This is because we can determine, by our own experiments, exactly what combination of bullet and powder charge works best in our weapons. We can make one gun serve many varied purposes by changing the powder charge and bullet type.

The advanced handloader will be greatly interested in the section on the home manufacture of metal cased bullets, and in the descriptions of the different makes of tools adaptable to this. Specific loading data is given on 40 of the more common cartridges in use today. Among these are the .22 Hornet, the .30-30, and the .30-06 rifle cartridges. A listing of the uses of the currently available powders and primers is given along with a very complete directory of manufacturers and dealers in reloading supplies.

This modestly priced book fills a long empty gap that has existed between the reloading tool manufacturers' various handbooks, and the expensive texts that are now being offered for sale. The author, Col Whelen, really needs no introduction to shooters. He has been Commanding Officer of our largest ammunition factory, Frankfort Arsenal, and Director of Research and Development at Springfield Armory. He has been a steady contributor to almost all of the hunting periodicals, firearms editor of some, and the author of several other excellent works, of which his *Firearms Design and Ballistics* is a classic in its field. Col Whelen's 53 years of reloading experience have gone into and made *Why Not Load Your Own?* the finest book of its price on the market. It is recommended to all who would like to get more enjoyment from their shooting, be it hunting afield or squeezing 'em off on the target range. HEJ

Sea Lord's Letters . . .

LETTERS FROM LORD NELSON—Compiled by Geoffrey Rawson. 456 pages, indexed. London and New York: Staples Press Ltd. $4.00

Horatio Nelson is too often confused, in at least *this* American's mind, with C. S. Forester's fictional admiral of similar name. From these letters, it appears that Britain's greatest admiral was even more a complex character than the well-drawn Horatio Hornblower. We see him from his midshipman days until just before his death

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Texts and References

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THE ART OF PLAIN TALK	Dr Rudolph Flesch	2.50
ART OF WAR	Sun-Tzu	1.50

at Trafalgar, and a curious bundle of paradoxes he is.

He emerges a lank, stern, impatient, rather disagreeable man, with a high flown conceit for his abilities and personal bravery. A hypochondriac, he complains constantly of his health, but his vitality is such that three days after he loses his right arm he is writing with his left. The loss of an eye, an arm, and a severe head wound do not combine to put him on the beach. Often begging to be returned to England for his health he is never long ashore before he is petitioning the Admiralty for a new command.

An opportunist, he grovels before Royalty and rank, but he remains faithful to his friends of lower station. Demanding and getting the utmost in loyalty from his captains he more than once disobeys the orders of his own superiors.

Early in his career, as a frigate captain, he suppresses the illegal (but sanctioned) American trade with the British West Indies, but is not, himself, above smuggling a few pipes of wine and rum into England.

Although sensitive about his unblemished character, he finds time to sire a bastard daughter by Lady Hamilton.

Searching the book for secrets of naval greatness or maxims of leadership is not particularly rewarding. These truisms, however, might be worth repeating:

On amphibious operations:

"We know from experience that an Army, thrown ashore without the possibility of being supported by a Fleet to land all the requisites for a Siege, (which are many), however numerous they may be, cannot subsist long in an Enemy's country."

On command responsibility:

"Political courage in an Officer abroad is as highly necessary as military courage."

Advice to a newly appointed midshipman:

"Recollect that you must be a Seaman to be an Officer, and also, that you cannot be a good Officer without being a Gentleman."

Geoffrey Rawson, in compiling the book, has wisely refrained from much editorial interference. His notes are few; furnishing only the most necessary transitions and identifications. The quality of the printing and binding indicates that British publishers are back to their pre-war standards of excellence. The one major omission is the complete absence of maps and diagrams which would have certainly made the campaigns easier to follow. Of course, the book is not meant to be a complete life of Nelson; it should be read in conjunction with a standard biography or naval history.

In closing, however, it came as news to this reviewer that Nelson was made a Colonel of Marines in 1795. This was not, however, an actual command but a sinecure given to a few senior post captains to pad out their service pay.

EHS

THE ART OF WAR ON LAND	LtCol Alfred H. Burne	2.50
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Genghis Khan's Discipline

ONE OF THE GREATEST WARRIORS IN HISTORY was Genghis Khan, who led his Mongol armies across half the face of the known world in spectacular fashion. Undoubtedly, Khan's generalship and tactics were superb; but probably his outstanding accomplishment was his ability to combine the many savage tribes of Asia into an efficient army.

There seems to be no question that much of Genghis Khan's success lay in his personal ability as a fearless fighter and tactician. Many of the tribes flocked to his banner for self-preservation. Once Khan had accumulated the thousands necessary for his campaigns the problem of control became paramount.

Genghis Khan met this problem by laying down a set of laws known as the Yassa Code. No complete list of the laws has been found by historians, but Petis de la Croix developed 22 rules from various sources. The Yassa made no distinction between soldiers and civilians, but only those peculiar to the soldier will be enumerated.

Khan's first and second laws established a single God and gave protection to the various monks, preachers, and physicians from public charges. He personally became established as a representative of God, a great factor in his absolute control.

Two sections of the Yassa are still very much in evidence today. One of the laws contained the armory idea whereby an officer kept most of the arms until a campaign began, at which time he issued them to each soldier. It was incumbent upon the soldier to keep the arms in good condition and have them inspected by his officer prior to battle. The other rule still widely recognized was Khan's order that a great hunt must be held every winter to keep his soldiers exercised and in good condition. Apparently his hunt was similar to present day maneuvers with the exception that "live ammunition" was used on game.

To keep the control of his soldiers on the battlefield Khan imposed the death penalty for pillaging before permission was given by the commanding general. Once the word was passed all hands had equal opportunities and could keep what they carried off, providing the Khan got his share.

The Mongols believed in all-out war, and the law provided that every man who did not go to war must work gratis for the empire for a period of time.

Horse and cattle theft carried an automatic death penalty. Lesser thefts were punishable by blows of the staff in accordance with the value of the stolen object.

Death sentences for spies are still recognized as valid; however, Khan included liars, sorcerers, and moral terpitude violators in the same category.

One of the most stringent laws controlled Khan's ranking officers. Leaders who failed in their duty or failed to come when the Khan summoned were ordered slain. Minor offenses resulted in these leaders being "called on the carpet" before "the man"—in this case Genghis Khan. JAP